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St. Bartholomew's Hospital Journal,

MAY 14th, 1895.

"Æquam memento rebus in arduis
Servare mentem."—Horace, Book ii, Ode iii.

IN another part of this issue we give a full account of the *Conversazione*, held by the Abernethian Society on May 1st, in celebration of their Centenary. There are, however, some features of the occasion which deserve special comment. The Abernethian Society is in many respects unique, but perhaps in no point is it more unique than in regard to the following incident. Fifty years ago Sir James Paget addressed the Society on the occasion of its celebration of the completion of its first half-century, and expressed the hope that the tide of the Society's successful work might carry it on in the same way to its full centenary. Little as he must have expected it at that time, Sir James Paget was not only able to see the fulfilment of his good wishes, but was able to personally congratulate the Society on the completion of its centenary, and to again wish it still further success.

No one who was fortunate enough to be present at Dr. Norman Moore's lecture will ever forget the thrill that went through the audience when Sir James entered the Theatre, just after Dr. Moore had read from the minutes the reference to Sir James's speech, made to the same

Society and under similar circumstances exactly fifty years before.

When Sir James Paget gave the Inaugural Address at the opening of the Society's hundredth session, last October, he said that it was just sixty years since he gave his first address to the Society. Surely the Society may well be proud to think that one of its members has watched it thus closely over such a lengthy period of time, and that member—second to none in the surgical world—so renowned a man as Sir James Paget.

Successful in every way as the *Conversazione* was, and although there was an abundance of entertainments and exhibitions of rarities and objects of great interest calculated to suit the most varied temperaments, there can be no doubt that Sir James by his presence added greatly to the success of the evening. We understand that Sir James now rarely goes out in the evening, and it is indeed no slight honour to the Society that he should have made such an exception in its favour.

By a coincidence the *Conversazione* of the Royal Society had been arranged for the same night, but in spite of this many people were able to divide their time, and thus taste the pleasures of both societies.

Though there was at no time during the evening anything more than transient congestion here and there, there was a distinct sense of fulness, and we think the Committee did extremely well in limiting the number of tickets. A slight increase in the numbers present would have caused unpleasant overcrowding, and would certainly have marred the enjoyment of all.

In view of the importance of the occasion, we are issuing with this number a portrait of Abernethy; the portrait is a reproduction of the picture by Sir Thomas Lawrence, P.R.A., in the Great Hall.

Many men expressed their desire to possess some memento of the occasion, and it was thought that no better memento could be chosen than a portrait of Abernethy.

The portrait we are sending out may, perhaps, be deemed by some to be worthy of a frame, inasmuch as it represents one of our greatest surgeons, and will recall the Centenary of the Abernethian Society of St. Bartholomew's Hospital.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,

Assistant Surgeon to the Hospital.

(Continued from page 99.)

DISINFECTION by chemicals is governed by laws similar to those which govern the action of heat. For instance, cocci and bacilli are more easily killed than spores, and the chemicals act better in simple fluids, like water, than in complex fluids, such as milk, blood, pus, or sputum.

Complex fluids contain organic or inorganic substances, with which the chemicals combine to form compounds which do no harm to bacteria. It is this that hinders the effects of chloride of zinc, carbolic acid, sublimate, and other chemicals.

The great difference in the resisting powers of non-spore-bearing and spore-bearing bacteria to chemicals is shown by an experiment of Mr. Percy Evans.* A solution of sublimate, one part in fifteen thousand parts of distilled water, is said to have killed anthrax bacilli in one minute; a solution of one part in one thousand killed spores in from three to fifteen minutes.

It is probable that, as Henle suggests, the chemical in the process of disinfection enters into combination with bacteria. Thus a given quantity of chemical can only combine with a given quantity of bacteria.† The process also resembles a chemical reaction in being aided by heat.

As Behring‡ points out, the presence of other micro-organisms may help to protect spores from the action of disinfectants.

Generally a strong solution of a chemical kills bacteria more quickly than one which is weak. But strong solutions may, by coagulating the albumen in the neighbourhood of the bacteria, form a protective barrier.

Bacteria grown upon artificial culture media are not, however, so resistant to heat and chemicals as those growing under what may be called their natural conditions. Van Quens found that *Staphylococcus* and *Streptococcus pyogenes* growing in artificial media were killed in a minute and a half by a temperature of 80°, whilst in pus they took much longer. Abbott says that different specimens of the same species of bacteria possess varying powers of resistance.

Therefore it is not right to think that a disinfectant will be as efficient in practice as it seemed to be in the laboratory. Most laboratory experiments are done with bacteria grown artificially.

I do not propose to describe the effect of oxygen or peroxide of hydrogen upon bacteria, nor the action of the

* "Experiments on some Antiseptics and Disinfectants," *Guy's Hospital Reports*, vol. xlvii, 1890, p. 195, *et seq.*

† "Corrosive Sublimate as a Disinfectant against the *Staphylococcus pyogenes aureus*," Abbott, *Johns Hopkins Hospital Bulletin*, vol. ii, No. 12, 1891, p. 50, *et seq.* This paper contains much useful information.

‡ Loc. cit., p. 43.

essential oils. Those who are interested in them will find much information in Sternberg's work.

Before a chemical is adopted, its properties ought, as far as possible, to be ascertained in the laboratory. A great deal can be learnt by simple experiments with culture media in test-tubes. This alone may show that the vaunted specific is a fraud. Should the chemical pass through the ordeal *in vitro* it should next be submitted to the tests of experimental pathology. Animals are sometimes killed by bacteria which are supposed to have been destroyed by chemicals. The effects of the chemicals upon animals should also, as far as possible, be ascertained. In this way valuable information may be obtained. For instance, Walther* and Delbet ascertained that suppurative peritonitis did not occur when a certain dose of *Staphylococcus pyogenes aureus* was injected into the uninjured peritoneal sac. But they also learnt that it did occur when the surface of the serosa had been injured with solutions of sublimate, or of carbolic acid, or of boracic acid, and so forth. The bearing of this upon abdominal surgery is obvious.

In our pathological laboratory† chemicals are usually tested by a modification of Koch's original method. Silk or cotton thread is sterilised with steam or boiling water. Pieces an inch long are soaked for half an hour or an hour in normal saline solution mixed with a virulent culture of anthrax. This ought to have been grown at body temperature for a week, and be full of spores. After having been soaked in anthrax the bits of thread are dried in a sterilised capsule in a warm incubator. They are then soaked in the solution of chemical, and washed in sterile water to remove the chemical. They are then put upon the surface of a culture medium, or dropped into broth, or into a gelatine tube which has been melted to receive them. Finally, the culture is put into the incubator at body temperature. Washing in distilled water is not always enough to remove the chemical, therefore absolute alcohol may be used. Sublimate is best got rid of by agitating the thread for two or three minutes in a 30 per cent. solution of ammonium sulphide.‡ The removal of all the chemical is of extreme importance. The want of this precaution vitiates many of the earlier observations.

Geppert, to whom we are indebted for valuable work, found that even a 1 per cent. solution of sublimate did not kill anthrax spores after six to twelve minutes' exposure, provided all the sublimate was removed with ammonium sulphide.§ Perhaps in this experiment the spores are

* "Experimentelle Beitrag zur Kenntniss der Aetiologie der Eitrigen Peritonitis nach Laparotomie," *Archiv für experimentelle Pathologie und Pharmacologie*, 1892, p. 275, *et seq.*

† *A Course of Elementary Practical Bacteriology*, Kanthack and Drysdale, 1895, p. 126, *et seq.* This is a book full of useful information to those who wish to learn the various methods.

‡ *Bekämpfung der Infektions-Krankheiten, Infection und Disinfection*, Behring, Leipzig, 1894, p. 45, *et seq.* This book is full of useful information.

§ Quoted from Schimmelbusch's *Aseptic Treatment of Wounds*. An excellent translation of this book has recently been made by A. T. Rake; published by Lewis, London.

protected by their own investing membrane, or by the albuminous and fatty covering which, as I have said, they are thought to possess. Of course, in all experiments of this kind the usual precautions are taken at each step to avoid contamination. Should foreign bacteria gain an entrance they are easily recognised—as easily as weeds in a garden.

The results must be controlled by other experiments. The threads, for instance, may be inoculated under the skin of a susceptible animal, or mixtures of the chemical with some virulent material may be inserted under the skin. For example, mixtures of tubercle and iodoform, and of anthrax and iodoform, have been tested in this manner.

The inhibitory or antiseptic powers of a chemical are usually ascertained by adding a definite quantity of it to a culture medium, such as gelatine. This is then inoculated with an easily grown microbe, such as *Staphylococcus pyogenes aureus*. A control experiment is done at the same time by inoculating a pure culture medium with the same microbe.

Chemicals mixed with nutrient materials can hardly be said to act as disinfectants, and their antiseptic properties are quite trivial. A tube containing ten cubic centimetres of broth was mixed with thirty-two minims of sublimate lotion, the strength of which was one part in one thousand of water. The ordinary skin micrococci grew luxuriantly in this mixture. Their growth was retarded but a few hours. I should estimate that the cocci grew in a mixture of broth and sublimate the strength of which was one part in five thousand. The same kind of experiment was done with carbolic acid. Ten cubic centimetres of broth were mixed with sixty minims of carbolic lotion, one part of carbolic in twenty parts of water, and inoculated with skin bacteria. A plentiful growth was the result. The carbolic acid merely delayed the growth a few hours.

Doubtless in such experiments as this the chemical is rendered to some extent inert by combining with albumen in the broth. In surgical practice antiseptics and disinfectants are usually spoilt by a similar combination of the chemical with albumen.

After a chemical has been tested in the laboratory we ought at least, to know whether it kills bacteria or not; how long it requires to kill bacteria; whether it can kill spores; under what conditions it kills bacteria or spores, especially whether it acts in the presence of albumen; to what extent it retards the growth of bacteria; and, finally, whether it may be used without injury to the tissues or without the fear of a toxic effect.

Very few of the antiseptic panaceas which are constantly being introduced fulfil these requirements. But our knowledge of some of the salts of mercury, carbolic acid, and iodoform is fairly complete, and it is to these that I shall confine my remarks.

Before describing those chemicals, however, something

ought to be said upon the oft-debated question as to whether chemicals can cause suppuration.

Scheuerlen's well-known experiments led him to believe that a number of irritating substances, such as croton oil, turpentine, mustard oil, cantharides, and so forth, could be placed in the cellular tissue of rabbits without causing suppuration. The chemicals were introduced with aseptic precautions in small glass tubes, which were broken when the puncture was healed. These experiments have been repeated and confirmed by Klemperer, Strauss, and others. Ruyis* injected diluted turpentine and croton oil into the anterior chamber of the eye without producing pus, although *Staphylococcus aureus* caused suppuration which speedily destroyed the whole organ.

Biondi,† working upon the same lines as Scheuerlen, arrived at the same conclusion, namely, that chemicals did not cause suppuration. He also found that suppuration did occur round the chemical if *Staphylococcus aureus* was simultaneously injected into the veins.

My own experiments done upon rabbits with pure carbolic acid, sterilised croton oil, and sterilised mercury resulted in a limited necrosis of tissues surrounded by a circumscribed area of intense non-progressive inflammation, accompanied by the production of a thick fibrinous exudation or lymph. This was sharply circumscribed and demarked from the surrounding normal tissues, was confined to the immediate proximity of the chemical, and had no tendency whatever to spread. I found that ptomaines obtained by sterilising cultures of *Staphylococcus aureus* acted in the same way. Moreover I have observed that if these animals were injected with carmine gelatine when the lymph caused by chemicals was a week or ten days old, a delicate network of vessels had begun to penetrate the lymph; or, in other words, that aseptic lymph was capable of organisation. This has hitherto been strangely overlooked.

On the other hand, Grawitz and de Bary‡ say that turpentine, nitrate of silver, and ammonia cause pus-production if injected beneath the skin of dogs and other animals, but I have not repeated these experiments. Large quantities of the chemical are required, and it is to be noted that the result is only a local lesion. Dubler,§ whose work is very exhaustive, also believes that the acute inflammation and necrosis caused by chemicals is followed by pus-formation. But in Mr. Watson Cheyne's|| experiments with sterilised croton oil suppuration occurred, but bacteria were found in most instances.

These contradictory results may depend upon differences in the kind of animals employed, upon the kind of chemicals, and upon the strength of the solutions which were applied,

* Quoted by Senn, *Surgical Bacteriology*, p. 94.

† "Contributo alla etiologia del pus," *Riforma Medica*, 1886; *Abst., Cent. für Chirurgie*, 1887, p. 754.

‡ "Ueber die Ursachen der subcutanen Entzündung und Eiterung," *Archiv für pathologische Anatomie*, Virchow, 1887, p. 97, et seq.

§ *Ein Beitrag zur Lehre von der Eiterung*, Basel, 1890.

|| *Antiseptic Surgery*, p. 251.

or upon the manner of their application; but I cannot help thinking that much depends upon our conception of the properties of pus. If there was only one kind of pus the matter would be simple. Unfortunately there are many kinds, with various properties and significances, and the result of the action of various causes.

By some the different kinds of pus have been classified according to their physical characters, and called laudable when smooth, opaque, creamy, and yellowish white, and without the odour of putrefaction; sanious when tinged with blood; ichorous when thin and watery; curdy when containing flakes; muco-pus when diluted with mucus; and so forth.* This rather quaint classification, which was the best that could be made in former times, neither takes into consideration nor affords any clue to the biological and chemical properties of pus. Yet these are of transcendent importance. For instance, pus which contains *Staphylococcus aureus* has properties different from that which contains *Streptococcus pyogenes*, and is usually associated with a different morbid process; and each of these, again, is distinct from that which contains tubercle bacilli. Nevertheless the physical resemblance of the various kinds of pus is so close that they could not be discriminated by it alone.

Thus the physical characters of pus (and I might add of other fluids) afford hardly any clue to its biological properties. These can only be ascertained by microscopical examination, by cultivation, and by experiment. The microscopical examination may betray the presence of bacteria; cultivations may disclose their identity, and experiments their pathogenic properties. None of these three methods can be relied upon by itself alone.

Occasionally the microscopical examination may afford a high degree of certainty as to the biological properties of pus. There could be little doubt about the identity of bacilli which had the characteristic staining reaction and appearances of tubercle bacilli; or which had the sharply cut-off, square-looking ends, and large dimensions, of anthrax bacilli. But these are at present rather isolated instances of the value of the microscopical examination of pus. But when that method fails, then cultures may disclose bacteria which could not be seen with the microscope. Also plate cultures may enable us to separate several kinds. But many bacteria grow so badly that cultures are of little value for their detection. The bacillus of tetanus, of tubercle, of malignant cedema, and actinomyces are examples. Attempts to grow these usually fail, because other bacteria grow and overwhelm them, or because the media are unsuitable.

When bacteria can neither be seen with the microscope nor grown in cultures, their presence may be ascertained by inoculation experiments upon animals. Tubercle is frequently diagnosed in this way. But it is to be remembered

* Erichsen, *Science and Art of Surgery*, 9th edit., 1888, vol. i, p. 230.

that too much should not be inferred in the event of failure, because the animals used for the experiment may have been immune.

The various sepsins, toxins, or ptomaines which some kinds of pus contain, and which are manufactured by bacteria, are obviously of great importance, but their presence is usually ignored in the diagnosis of pus. Tests which would easily demonstrate their presence would be invaluable.

Thus the inflammation excited by a chemical is *non-progressive*, and strictly confined to the area to which it was applied, because the chemical has no inherent power of increasing. Bacteria, on the other hand, excite a *progressive* inflammation, because they grow into fresh tissues. The degree of inflammation which a chemical causes depends upon its strength, quantity, quality, and mode of application. For instance, ammonia* diffuses and penetrates the tissues, whilst carbolic acid or metallic mercury remain where they were placed. The influence of the strength and quantity of chemicals, and of their varying effects upon skin, mucous membranes, tissues, special organs, and so forth, is too well known to need to be mentioned.

The way in which irritating substances are introduced is of moment. Five per cent. chloride of zinc solution injected under the skin is often followed by pus-formation, the skin itself having undergone changes which permit infection from the exterior; injected into muscles a coagulation of albumen results, but the coagulum is soon absorbed.† It is also well known that in the treatment of syphilis by injections of solutions of perchloride of mercury suppuration is apt to occur unless the injection is made into the substance of the muscles.

Thus we conclude that dilute chemicals cannot cause progressive suppuration or produce infective pus. Some chemicals, however, may when very concentrated cause non-progressive circumscribed inflammation, the product of which may be a non-infective fluid with the physical and microscopical characters of pus. This fluid is, however, more often spoken of than seen. Infective pus is a reproach to the surgeon, and the occurrence of this non-infective fluid which may be caused by chemicals ought not to be affirmed until appropriate bacteriological tests have been applied.

Strange as it may seem, pus, the product of bacterial activity, is not a favorable medium for them to live in.

It has been ascertained by Grawitz‡ that sterilised pus has a deleterious effect upon some kinds of bacteria. When pyogenic cocci are mixed with such pus they rapidly diminish in numbers, and in ten days none can be found. Eichel found that pyogenic cocci soon died in the pus of acute abscesses. These experiments have been confirmed

* Grawitz and De Bary, "Ueber die Ursachen der subcutanen Entzündung und Eiterung," *Archiv für pathologischen Anat.*, 1887.

† "Ueber die Ursachen der subcutanen Entzündung und Eiterung," Grawitz and De Bary, *Arch. für path. Anatomie und Physiol.*, Virchow, 1887, pp. 82-3.

‡ "Beitrag zur Theorie der Eiterung," *Virchow's Archiv*, Bd. cxvi, p. 116.

by Dr. F. W. Andrewes,* who found that pyogenic cocci and anthrax died a few hours after having been introduced into pus. On the other hand, pus was an excellent culture fluid for the bacillus of diphtheria and for the *Bacillus prodigiosus*. The last is a remarkable microbe which is easy to obtain and cultivate, grows with great rapidity, and is supposed to account for the phenomena of bleeding bread and bleeding host (Flügge).

It used to be taught that when a foreign body entered the tissues it caused inflammation and suppuration, and was extruded. Now it is recognised that the tissues tolerate sterile foreign bodies. Those which cause suppuration are septic, a fact which was hidden from the older teachers. Grawitz† ascertained that the peritoneum would tolerate aseptic wool, linen, and sponge, but that these caused suppuration when small quantities of *Staphylococcus pyogenes aureus* were added. We have already seen that small doses of *Staphylococcus aureus* do not cause peritonitis when the peritoneum is uninjured or unoccupied by blood-clot or foreign bodies. In operations such as those for the radical cure of hernia the tissues tolerate quantities of silk so long as it is sterile.

(To be continued.)

On Hysterical or Functional Disorders.

By H. H. TOOTH, M.D.

Read before the Abernethian Society, October 25th, 1894.

(Continued from page 103.)

Disorders of Sensation.—We now come to consider the manifestations of hysteria which, so to speak, are more peculiar to the neurosis, and therefore less likely to be mistaken for organic disease. Under the term *anæsthesia* are included degrees of loss of sensation ranging from a mere subjective numbness to an absolute loss of appreciation of all forms of stimuli, so absolute that a limb might be mutilated without the knowledge of the patient.

The various forms of sensation may be affected separately or collectively; thus there may be failure to appreciate simple touches, or tactile sensation being preserved, there may be complete loss of pain, sensation, analgesia, so that the patient can feel the pin when stuck into the skin, but it conveys to him only the sensation of a touch or push. Along with this is sometimes found a disposition for the pricked skin to bleed less than in the normal skin—*ischæmia*. Other curious phenomena are found in connection with loss of sensation, such as "transference" of the *anæsthetic* area to a corresponding area on the opposite side of the body. This can be done with ease in some cases by the application of magnets and certain metals, and more particularly under the influence of hypnosis. This phenomenon has its counterpart in true epilepsy where there is a definite aura beginning in a limb, in which case the fit may be stopped by grasping the limb or by an encircling blister (Buzzard), but often, after a time, the aura makes its appearance in the opposite limb.

But in connection with loss of sensation, perhaps the most important to the medical man in diagnosis is its distribution.

It may be general, in which case the patient is *anæsthetic* all over the body. Such a person will say that he feels as if his body were a balloon. I have seen a man hit his head violently with his hand, and say he does not feel the blow nor the giving of it. He will also rub his finger over his conjunctiva, and even touch his cornea in de-

monstration of his *anæsthesia*. Such a general loss of sensation cannot be produced by any known organic lesion.

Where the *anæsthesia* is local, it is usually sharply delimited. Thus in *hemianæsthesia* it is marked sharply by the middle line. When there is *anæsthesia* of the limbs, we find that the limb can be divided into sections of *anæsthesia*. For instance, it may stop sharply at the wrist or ankle, elbow or knee; and where the whole limb is affected, at the junction of the limb with the trunk. Thus we have the "stocking," "sock," and "glove" *anæsthesias*. The *anæsthesia* following nerve lesions are never sharply delimited, owing to overlap of one nerve distribution over the other, and they more or less correspond to the anatomical course of the nerve.

It is probable that the regional distribution of the hysterical *anæsthesias* above described corresponds to cortical representation of sensation, comparable to the cortical representation of *movements* as opposed to individual muscles.

Under disorders of sensation must be included affections of the so-called muscular sense, articular sense, sense of movement, sense of position—a condition which may be called *akinæsthesia*. This, when established in the lower limbs, gives rise to *ataxia*, which resembles at first sight that of locomotor *ataxia* almost exactly. The patient staggers in walking, and tends to fall with the eyes shut. This condition has received the name "*hysterical pseudo-tabes*." Of course the classical features of *tabes* are absent. I remember a very marked *ataxia* of this description being sent to the hospital by a doctor as a case of *tabes*, but which eventually completely recovered.

In some cases of *hemianæsthesia* there is also loss of localisation of the position of the limbs affected, and, in some, complete inability to distinguish between heavy and light weights.

"*Astasia abasia*" is the name given by Blocq to a class of cases in which the patient is unable to stand or walk, but can, in the recumbent posture, move the legs about freely. It is probable that the name includes many of the pseudo-tabetic type. Blocq has brought out the difference between this condition and a paralysis of the lower extremities by a hypnotic experiment. A hypnotised subject, when told by him "you have lost the power of walking," became completely paralysed in the lower extremities, but when he said "you no longer know how to walk," inco-ordination in the movements necessary for walking was the result.*

Of the disorders of the special senses those of sight are the most interesting.

Amblyopia, or simple dimness of sight, is a common symptom. This may be so deeply expressed as to amount to *amaurosis*, or complete inability to appreciate form and colour. Examination of such cases shows more or less extensive contraction of the visual fields. The field for colours may also be so reduced as to result in *achromatopsia*, or loss of colour vision. In cases of hysterical *hemianæsthesia* the diminution of the fields is always greatest on the *anæsthetic* side, but may also be present to a less extent on the opposite side.

As a rule the colour-fields diminish and disappear in their usual order—violet first, then green, red, and orange, the yellow and blue remaining last. In contra-distinction to the *amblyopia* due to disease of the disc, these forms do not seem to affect the acuteness of vision.

A curious double or multiple vision in one eye only, *monocular diplopia*, or *polyopia*, is sometimes complained of by the patient. This seems to be a real disorder of vision, and Parinaud attributes it to contracture of the ciliary muscle. The explanation of such a phenomenon is, however, very obscure.

Loss of taste on one side or both is a symptom of some value in diagnosis. It is common in functional cases and comparatively rare in organic.

Anæsthesia of the palate is so common as to be almost a physical sign.

Hyperæsthesia is a less common disorder of sensation than *anæsthesia*. It is probable that the intense sensitiveness to external sources of irritation in *neurasthenia* are attributable to a general *hyperæsthesia*.

There are one or two proper hysterical phenomena that may be referred to under this head. Of the most remarkable are the *hysterogenic* zones and points. These are tender spots which make their appearance about the body not haphazard, but with sufficient constancy to be capable of being charted. One of the most constant of these is situated in the inguinal region over the ovary. Another important one is found frequently under the breast, but there are many others, as will be seen on reference to Richer's book.† As the

* Local Government Reports, 1893.

† "Beitrag zur Theorie der Eiterung," *Archiv für prakt. Anatomie*, 1889, p. 121, et seq.

* See an abstract on the subject by Pasteur, *Brain*, vol. xiv, p. 566.

† *Hystéro-Epilepsie*, 1881, p. 35.

name implies, these areas are not only hyperæsthetic, but stimulation of them may produce very wide-spread effects.

The hyperæsthesia is quite superficial; there is no reason to suppose that it extends to the underlying organs. Take the so-called ovarian area. In a well-developed case the slightest touch, or rubbing, of the skin within the area is sufficient to produce a general convulsion. Richer says that simply blowing upon a hysterogenic area has induced the fit—an apparently inadequate cause for a vast effect: a spark in a barrel of gunpowder. But a still more remarkable point about it is that a deep pressure, or strong stimulus applied to the same area will frequently stop the convulsion. It is more than likely that the ovary itself has nothing to do with this zone—a supposition which is confirmed by the fact that a similar area appears under similar circumstances in the male.*

A recently published research by Dr. Head† seems to throw a ray of light upon this obscure subject. Following a line suggested by Ross, and by a most careful and laborious series of observations, he has made out that the whole surface of the human body can be mapped out into areas, which correspond to spinal segments, not distribution of spinal nerves. These areas have a generally annulose arrangement, except where the limbs come in. They differ from areas of spinal nerve distribution in that they do not overlap, but are sharply defined. Here we have a reminder of the probable origin of man from some annulose type of animal. Moreover, the sensation of these areas is in more or less direct relation to the organs of the alimentary and genito-urinary tracts, heart, and lungs: another reminder that man has grown up round his alimentary canal. Under certain conditions the sensation in these areas is altered by disease of the internal organs, so that when a definite tender area appears in any part of the body, it suggests some affection of one or more internal organs. In other words, the internal organs have a definite representation on the surface of the body. Now, it does not follow that in every case the alteration of sensation is a complete band or zone; there may be only a tender spot, called by Head the maximum. Thus in gastric ulcer we may find a very broad band of hyperæsthesia, marked D 6, 7, 8 in his chart, but more commonly we find the maximum of the middle area, which is a tender spot in the epigastrium, to one side of the middle line. This is a very common seat of tenderness in inflammatory conditions of the stomach.

Comparison of the hysterogenic areas with those in Head's chart leads one to the conclusion that many of them, if not all, correspond to the maxima.

Now, the so-called ovarian zone corresponds to the maximum, marked blue and lettered D 11, and being the representation on the surface of some part of the intestine, the kidney, the ureter, bladder, prostate, epididymis, and uterine appendages, perhaps also the uterus, that is, most of the genito-urinary tract, but not the ovary or testis, disease of which causes the appearance of a tender spot higher up, nearer the umbilicus.

So much for the anatomical or morphological explanation of hysterogenic zones. Now does it follow that, because in a hysterical patient we find a tender area in the position of the so-called ovarian point, that there is therefore any demonstrable disease of the organs shown by Head to be associated with such an area? By no means, any more than there is disease of the internal capsule in functional hemiplegia.

In a large number of febrile diseases—in fact, in all persons in whom there is rise of temperature—there is a tendency for the appearance of tender spots and zones over the surface of the body. It is possible that the typical lumbar pain of smallpox is such an area; but everyone who has had experience, personal or otherwise, of tonsillitis or influenza will know that tender places appear all over the body. Head finds that these areas correspond in position to those he has charted, that they are not constant phenomena, that they tend to appear and disappear in the same person, and that they almost invariably accompany pyrexia. In fever, then, we have a temporary constitutional change favourable to the appearance of "stigmata," similar to those that appear in hysteria.

Spasmodic Affections.—Not the least remarkable among functional diseases are the muscular contractures. These may appear in limbs or single muscles. Spasmodic wry neck or torticollis is frequently a hysterical phenomenon, due to contraction of the sternomastoid. I have lately seen a remarkable case of spasm of the external pterygoid

muscle, by which the jaw was forcibly drawn over to the opposite side. It gives rise to a form of lockjaw, and is apparently very painful.

The tonic contracture of limbs often occurs as a part or sequela of the hysterical convulsion, but it may also occur as an isolated phenomenon. In such cases the intensity of the rigidity is very striking; it is often far in excess of the rigidity in organic disease. I remember a boy, a patient of Dr. Beevor's, who had a functional paralysis with analgesia of the arm, and in whom the hand and wrist were in a state of tonic flexion, so intense that a strong man could not reduce it, though it disappeared under deep chloroform narcosis. The boy was not strong enough to imitate it in the other hand. In such cases we must suppose the action of automatic centres, which do not feel fatigue. When I say that the boy was not strong enough to imitate the spasm in the opposite limb, I mean that he had not *will* enough to do it; his muscles must have been strong enough. Even if he could produce a voluntary spasm on the opposite side for a short time he could not keep it up, because his centres would soon succumb to fatigue, that is, the centres, for want of a better term, in which his will resides require rest. Not so the automatic centres, from which the will is temporarily divorced. This immunity of lower centres from the ordinary phenomena of fatigue is not without parallel in the vital centres, the heart, and respiratory centres, and perhaps more strictly those concerned in the normal muscular and vascular tonics. That cerebral fatigue appears long before muscular is shown by the experiments of Waller.* By registering repeated grasps at regular intervals with a dynamometer, he produced a rapidly descending curve, till a point is reached at which no effort of the will will evoke a muscular contraction. The muscles are said to be tired, but that such is not the case is shown by the fact that direct faradaic stimulation produces as vigorous a contraction as it did before the experiment. It is the will that is tired, and the result is a functional paralysis for the time. It is evident that the muscular system is thus protected from overstrain. In feats of endurance the will is a much more important factor than the muscles. A man in training for a race is training or educating his brain as much as his muscles.

Convulsions.—The convulsive attack may be considered as almost the central, or most commanding feature of the neurosis. As with paralysis or disorders of sensation, the convulsion may be an isolated symptom of the disease; but very frequently we find that it is the overture to the hysterical drama. It is necessary to clear the mind of the old conception of a hysterical fit as consisting of screaming, laughing, and crying, &c. These sometimes accompany the minor attacks, but are emotional accompaniments and not part of the true fit. On the other hand, the term hystero-epilepsy is liable to lead to misapprehension. Charcot has insisted that hysteria can never be epilepsy, nor epilepsy hysteria, under any circumstances. They are two diseases as distinct as typhus and typhoid. They may, and frequently do, exist in the same patient, thus the epileptic may suffer from fearful outbreaks of hysterical convulsions, so severe as to mark and overshadow the epileptic symptoms, and yet be an epileptic all the same. The name hystero-epilepsy was used when the distinctive features of the hysterical convulsion were confounded with those of epilepsy; it would be better now to drop the term altogether, and use that of hysteroid (Gowers) or simply functional. In order to bring out the difference between the two forms of convulsion, it would be necessary to describe the epileptic paroxysm carefully, but such would be impossible now.

The best and most comprehensive descriptions of the typical hysteroid convulsion come from the French school, notably from the Salpêtrière, and in no work are they more graphically described and figured than in that by Dr. Richer,† who is not only an acute observer but also an artist. We rarely see the convulsion in all its phases in this country, but minor or incomplete attacks are of everyday occurrence, and their diagnosis from true epileptic attacks is often a matter of the greatest importance.

The typical attack may have certain prodromata, hallucinations of sight or hearing, affections of sensation or motion. The hysterogenic zones may make their appearance. In some cases a definite aura hysterica may appear, though this is rarely of the definable nature of an epileptic aura. Giddiness is a common aura, and the well-known *globus hystericus*, which is almost comparable to the epigastric aura of epilepsy.

According to Richer, the attack may be divided into the following stages:—

1. *The Epileptoid.*—Complete loss of consciousness, during which

* Charcot, *Leçons du Mardi*, 1889, p. 32.

† Head, "Disturbances of Sensation with especial reference to the pain of Visceral Disease" (*Brain*, vol. xvi, p. 1). Dr. James Mackenzie has worked in the same direction, and with, in the main, similar results (see *Brain*, vol. xvi, p. 321).

* Waller, "The Sense of Effort" (*Brain*, vol. xiv, 1891, p. 184).

† Richer, *Hystéro-épilepsie*, Paris, 1881.

the patient passes through convulsions more or less violent, having, (a) a tonic phase, and (b) a clonic phase.

In this stage, which most frequently constitutes the fit that we see in England, the patient may knock herself about, may bite the lips, but very rarely the tongue (though it is often protruded), foam at the mouth, turn up the eyes so that the whites only are visible, and may even, if the bladder happen to be full, pass water involuntarily. But there is little change of colour, and the paroxysm may last a long time, even an hour, while the epileptic fit is a matter of minutes.

2. *The Stage of Contortions* (clownism).—"Grand mouvement." Marked by intense muscular movements of the whole body, opisthotonos, movement of single limbs, &c., followed by a period of relaxation or muscular resolution, marked, however, by persistent contractions of limbs. This stage is not uncommonly seen in this country.

3. *The Stage of Passionate Attitudes*, in which the patient assumes attitudes indicating the passions—love, rage, religion, &c.

4. *The Stage of Delirium* (hallucinations).—After this, recovery of consciousness, but the persistence for a time of paralysis of limbs or muscles, with contractions.

The whole period of time occupied by this tableau may be only six or seven minutes, or it may last for several hours.

It is evident, therefore, that the hysteroid paroxysm is as much "sui generis" as the epileptic.

General Considerations.—The general tendency of modern thought in explaining the manifestations of hysteria is to the conception that it is a disease in which the control of the higher centres over the lower is in abeyance or, at any rate, modified; in fact, that it is a psychosis rather than a neurosis.

There is evidence that we have a dual existence. Many of our daily actions are more or less automatic, walking for instance. Frequently epileptic patients in their minor attacks, being quite unconscious, perform the most complicated automatic acts, notably Trousseau's case of the violinist, who played through a page of music while in a state of epileptic unconsciousness, the counterpart of which I have seen in a violoncello player. Without this automatism perfection in art, music, and athletics would be impossible.

Further evidence of this subconscious state is offered by the phenomena of sleep. Perfect sleep should be dreamless, but most people dream, and their dreams are indications of a subconscious existence. As a rule, dreams are not suggested by the absorbing events of the day, in which the highest consciousness has been engaged, but usually we search for an explanation of a dream in some half-forgotten trivial incident.

In sleep susceptible persons perform the most complicated actions; in fact, the somnambulistic state is practically a variety of hysteria.

But the manifestations of hysteria can be reproduced, interchanged, and modified in the most striking manner in hypnotism, and in hypnotism we may see what we may call induced or (?) artificial hysteria. This is the most perfect example of the dual or subconscious state above alluded to. Leewenfeld calls it the hypnoid state.

Now, the most remarkable characteristic of this subconscious state is liability to suggestion. The patient becomes ready to receive and act upon any suggestion from without. The attitude of such a person reminds one of the old experiment of Goltz, known as the "croaking frog." In that experiment the highest centres are cut off from the lower, with the result that every stimulus produces a definite effect, each stroke on the abdomen, a croak. The hypnotised person is a similar but much more complicated machine; suggestion from without is the stimulus which, like the stroke on the frog's flank, sets in train certain action. The suggestion acts as a command to subcortical centres, but that is all; the method of carrying out the command is peculiar to these centres; in other words, the hysterical "stigmata." Suggest an epileptic fit, and you may produce a convulsion, but it will be a true hysterical fit; suggest hemiplegia, and hemiplegia results, but of a distinct type; suggest anaesthesia of a limb, and there follows the characteristic distribution of hysterical loss of sensation.

The difficulty in always finding a direct suggestion in hysterical trouble after accidents or in the course of disease has led to the invention of the term auto-suggestion.

Now, everybody is not susceptible to suggestion, and no doubt numbers of people live an active life without even suffering from a hysterical symptom.

But, on the other hand, persons in whom there is a distinct family history of hysteria, or, in fact, of any of the great neuroses, as Charcot has insisted, are distinctly predisposed to the development of hysteria. Under normal easy circumstances of life such persons may never suffer, or even be suspected of being hysterical.

But let such a person be subjected to a sudden psychical shock or

emotion, then a change in the relation between highest and subcortical centres takes place; he becomes morbidly alive to suggestion, and the hysterical stigmata then make their appearance. The form that such "stigmata" should take, or the degree of intensity of them, is immaterial; whether it be a frightful convulsion or a simple loss of power over a group of muscles the underlying condition is the same—as Charcot says, "one, and indivisible."

Unfortunately, when the hysterical stigmata have once appeared, there is a tendency to repetition of them on very slight provocation. This is one of the great dangers of hypnotism, and so risky is its application that it ought to be used only after extreme deliberation by a medical man, and distinctly not at all as a means of amusing the public.

In persons predisposed, an alteration of the general state of health may be the starting-point of the psychosis. The remarkable appearance of tender areas in fever, from whatever cause, has been already alluded to. Anæmia, the general malnutrition induced by unhealthy surroundings, phthisis, and, in fact, almost every disease affecting nutrition, may be associated sooner or later with hysterical phenomena. In such cases the hysterical symptoms may disappear with the general, hence the prognosis is usually good.

But there is a group of cases in which, at present, treatment has given very indifferent results. Grave nervous affections, more particularly disseminated sclerosis, are frequently accompanied or preceded by hysterical stigmata. The most typical cases of functional paraplegia have appeared under such conditions, often years before the underlying disease has become recognisable. Epilepsy may be masked completely by hysteroid convulsions.

Along with the progress of repeated hysterical phenomena may be noticed in some cases a distinct mental deterioration, so that it is evident that the hysteria is only symptomatic. In such cases the prognosis is always grave, and the treatment often of great difficulty and delicacy; in fact, hysteria may run into insanity.

Treatment.—It would require a great deal more time than is now at my disposal to do more than indicate the lines to be taken in the treatment of hysteria.

The tendency to functional disease is distinctly hereditary, more so, I am inclined to think, than is the case in epilepsy. A family history of insanity is very common—a fact which is often harped upon by the patient. The children of neurotic parents should be removed to a good school as early in life as possible.

General Treatment.—In treating the individual case a considerable amount of tact will often be necessary. It is essential to gain the complete confidence of the patient. Every detail in the history, and also every symptom, should receive attention. It is as foolish on the part of the medical man to attempt to laugh off the symptoms because he cannot altogether explain them, as it is dishonest in the quack to magnify them for his own ends.

The alleged starting-point should be carefully investigated, and also the physical condition at the time. The general state of health must be examined into most critically. Anæmia is one of the most common underlying conditions, and yet it is one that often escapes notice, or rather one to which sufficient significance is not given.

Uterine displacements have been and are still credited with having a great share in the causation of hysterical states. It is probable that their importance has been greatly over-rated.

Where true epilepsy can be made out the treatment by the bromides is often followed by very happy results. In very obstinate cases of paraplegia separation from all sympathising friends becomes necessary, and in such cases isolation, passive exercise or massage, and liberal feeding—a form of treatment suggested by Weir-Mitchell—often result in surprising improvement. Not a little of this improvement is often due to the state of mental quiet and reliance on the treatment. The influence of the mental condition on the physical is strikingly shown in functional disorders following railway collisions. The worry of legal proceedings tends to keep alive the functional symptoms, which, however, often rapidly subside under the soothing influence of substantial damages.

Without in any way attempting to minimise or laugh off the symptoms the patient complains of, it is advisable to encourage the patient to look for complete recovery, and especially to explain that no signs of organic disease can be found. This is important, because such patients find it very hard to believe that such striking symptoms can exist without an organic basis. The commonest fear is impending "paralysis"—an indefinite but very terrifying term. Many patients fear insanity, and are immensely relieved to be told that they may dismiss this from their mind; in fact, the first step in the treatment is to clear away these indefinable fears. At the same time, when the medical adviser has any fears in his own mind, they should be freely communicated to the friends.

In cases in which the symptoms can be traced to mental worry, the rest of a long voyage is often of the greatest benefit.

Electrical Treatment.—Brisk faradisation will frequently restore the sensation to anaesthetic areas, and has a very marked effect on some of the forms of paralysis. Where there is much exhaustion, galvanic baths appear to give relief.

Some patients express themselves as much benefited by the sparking of static electricity, but it is perhaps a question whether the effect is not more moral than physical.

Hydrotherapy.—The application of douches to the spine, in the form of jugs of tepid water about 70° to 80° F., are sometimes useful, especially in cases in which there is marked insomnia.

Local Treatment.—In applying faradism to a paralysed limb, one pole should be applied to the trunk, and with the other the limb should be stroked, either with a wet electrode, or, if there be much anaesthesia, the wire brush. The effect of this is often magical, and the result permanent.

The effect of metals applied to the skin is sometimes very marked, but metalotherapy has not been much resorted to in this country. It is probable that some of the so-called electropathic belts have produced effects in this manner, rather than by any electrical properties they may possess. The curious phenomenon of transference of the "stigma" to the opposite side of the body is brought about by the application of magnets to the affected part. This may be the first step in the cure of the disorder.

Treatment of the Paroxysm or Fit.—The milder forms of hysteroid convulsion may often be cut short by appropriate methods. Supra-orbital pressure, by which the superior branch of the fifth nerve is irritated, sometimes stops the fit. This, however, is a somewhat brutal method. The effect of deep pressure in the iliac region (so-called ovarian) has been discussed above.

A harmless and often very effectual method is that of temporary suffocation. The mouth and nose are forcibly closed till the patient begins to fight for breath; on sudden removal of the obstacle to respiration the patient frequently, with a deep sigh, returns to consciousness.

Faradaic stimulation to the hands may also cut short the attack. The effect of a hypodermic injection of apomorphia is said to be very certain, but it seems to be a somewhat heroic form of treatment.

I am inclined to think that a hysteroid attack is best left alone to run its course. I have been able to cut it short in some instances, but there is always a tendency to relapse. All that is really necessary is to see that the patient does not damage herself by the violence of the convulsive movements.

Drugs.—The bromides in moderate doses (5 to 10 grains) are nearly always beneficial in my experience, and produce a marked effect on the convulsive attacks, though this, I am aware, is not the general opinion. The anti-spasmodics may be given with bromide, and the most useful are valerian, valerianate of zinc, and camphor, but of course there are many others.

Quinine, iron, strychnine, and arsenic are among the tonics most in use.

The headache that often precedes a hysteroid attack, and may also follow it, generally yields to antipyrin, or the phenacetin group, and, in fact, the attack may often be completely prevented by the timely use of these drugs.

Conversazione in Celebration of the Centenary of the Abernethian Society.

On May 1st the Abernethian Society gave their long-talked-of conversazione, and although big promises were made by the committee appointed to make the necessary arrangements, the result far overtopped every one's expectations, both as regards its magnitude and the smoothness with which the programme was carried out.

Visitors on arrival were received by the Presidents at the top of the grand staircase, and proceeded to the Great Hall, where refreshments were served, and where the band of the Grenadier Guards played during the whole evening under the direction of Lieut. Dan Godfrey.

The picture of Abernethy in the Great Hall was draped with flags, and in front of it was arranged a large and most interesting collection of letters and other objects of interest in connection with Abernethy, chiefly lent by Mr. and Mrs. Willett. There was a further collection of curiosities, including some New Zealand and Samoan weapons, some of Jenner's hair, and many other objects of great interest.

THE ANATOMICAL THEATRE.

At 9 p.m. a lecture was given by Dr. Norman Moore in the Anatomical Theatre upon "The History of the Abernethian Society." We understand that the lecture is in process of publication in pamphlet form, so that a brief notice here will be sufficient.

Dr. Moore traced the history of the Society from its foundation, and read many interesting and curious extracts from the old minute-books which he had on the table before him. Dr. Moore said that when the fiftieth anniversary was celebrated Sir James Paget—then Mr. Paget—had addressed the Society, and wished that their success might be maintained to the celebration of their full centenary. He hoped that Sir James would be present before the conclusion of the lecture in order that he (Sir James) might personally congratulate them on the fulfilment of his good wishes given fifty years before.

Almost immediately afterwards Sir James entered the arena of the theatre from the door behind the lecturer, and was received with tremendous enthusiasm.

At the conclusion of the lecture Sir James made a speech congratulating the Society on its great success hitherto, and hoped that their success in the future might be even greater.

At 10 p.m. Dr. Kanthack gave a short lecture on "Microbes" in the Anatomical Theatre, illustrated by lantern slides belonging to Dr. Klein's unrivalled collection. He described the various forms of organisms met with, and then proceeded to tell of their products. Some manufactured pigments, others gas, others light, and yet others disease. The latter, or pathogenic organisms, were then more carefully described and illustrated. Some one hundred slides were projected on the screen, the lantern being most excellently worked by Goffi, so that specimen succeeded specimen without a hitch. The lay mind seemed to be especially cheered by a comparison of two plates of gelatine exposed to the air on Wandsworth Common and in Oxford Street respectively; the former contained a few organisms, while the latter was almost obscured by them.

THE MEDICAL THEATRE.

Dr. LEWIS JONES showed a series of vacuum tube experiments, to illustrate the phosphorescence of different bodies under the action of the spark discharge, also an apparatus giving high frequency discharges at high potentials. Many of the more striking effects shown by Tesla and by d'Arsonval were illustrated,—as, for example, the illumination of vacuum tubes without electrodes, and the glowing of bulbs held in the experimenter's hand or in the neighbourhood of the apparatus. Visitors had the opportunity of testing the small physiological effect of the spark discharges of the high frequency coil and by closing the circuit through their arms, and of seeing the remarkable experiment of an incandescent lamp glowing between the hands of two persons, whose bodies conveyed the current to the lamp without feeling any shock. The high frequency coil apparatus was constructed by the experimenter himself. It was driven by means of a beautiful ten-inch spark coil, lent by Mr. Apps, of the Strand.

THE DISSECTING ROOM.

The Dissecting Room, which was re-christened for the evening "Anatomical Demonstration Room," was, to quote a member of the senior staff, truly a "whited sepulchre." It was extremely prettily decorated with bunting, flags, and shields; palms and flowering plants were placed in every available space. It is perhaps worth mentioning that cleansing and deodorant measures had been so rigorously applied that the absence of the characteristic odour seemed to make us feel that we could not possibly be in a dissecting room. The walls were hung with a collection of pictures lent by the Autotype Company. The bijou orchestra played throughout the evening. The music was mostly of a popular character, and selections were given from most of the recent light operas. The Dissecting Room is an extremely good room for sound, and the presence of this band considerably increased the attractiveness of the room. There were excellent exhibitions of surgical instruments by Messrs. Arnold, Ferguson, Maw, Son, and Thompson, and Messrs. Down. It would be impossible to even attempt to give anything like a complete description of these. It will be sufficient to say that the collections were most exhaustive, and that all the latest inventions and improvements were shown. Messrs. Baker and Sons showed a micro-photographic apparatus, together with other microscopical instruments. Messrs. James Hicks, of Hatton Garden, showed some interesting meteorological apparatus, and various forms of clinical thermometers and other exhibits. There was an interesting exhibition of drugs, specially prepared in a portable form, shown by Messrs. Burroughs and Wellcome. The St. John's Ambulance Association also showed some ambulance carriages and diagrams.

THE AMALGAMATED CLUB SMOKING ROOM.

The "Smoking Room" was set apart for AN EXHIBITION BY THE PHOTOGRAPHIC SOCIETY, and became one of the most attractive sections of the conversazione. The usually somewhat dingy and cheerless walls were hidden by a well-hung series of framed photographs. The centre table was covered by unframed specimens, and the windows were similarly filled. The floral decorations were a welcome addition, and some standard lamps, kindly lent by the matron and sisters of the Hospital, completed the change from the normal appearance of the room, which is not particularly pleasing. A marked improvement upon previous exhibitions by this Society was the introduction of several incandescent gas jets, which rendered the show of pictures far more attractive than usual.

Among the most generally noticed and admired photographs were—"A Moonlight effect off Wicklow," by Mr. Fincham; Mr. Hepburn's series of Alpine photographs, with accompanying bromide enlargements—especially one of "Mountain Sheep;" Dr. Lewis Jones' "Thames Barges," "Mentone," and others. Dr. Tooth showed some fine bromides illustrating river scenes, and Messrs. J. P. and J. L. Maxwell were well represented by "Scotch Abbeys and Cathedrals," with other Caledonian views. Messrs. Pearson and Calvert showed a fine collection of Normandy views, and Mr. Hussey exhibited photographs taken nearer home in the shape of representations of the Hospital wards, wherein it is more than probable that several of the spectators recognised their own counterfeit presentments. Mr. Mawer showed some good portraits, "A Game of Chess" being specially worthy of notice; but it was a little disappointing to find this branch of the art not well represented. The fact is probably accounted for by remembering that the exhibition was entirely the work of amateurs—members of the Bart.'s Photographic Society,—and, of course, portraits are a professional speciality to a great extent. Still, we should like to see more attempts in this direction upon some future occasion.

The committee are to be congratulated upon the "hanging," which showed splendid taste and discrimination. In all, 270 photographs were shown. Among the exhibitors not mentioned above were Messrs. Womack, Coleman, Horder, Drury, and Amsden. Photographs of "cases" were conspicuously absent, probably on account of the mixed nature of the critics expected; otherwise we should have welcomed some specimens of the more serious work of the Society, as connected with the Hospital practice. "Realism," and the free depicting of it, are so fashionable nowadays, that such a step would have been quite *au fait*; but somehow we prefer the discretion of the Society as exemplified in their selection. There is room, however, for a special exhibition of "shop" photographs in the future.

THE LIBRARY.

During the course of the evening the members of the Hospital Musical Society sang some part-songs in the library under the able baton of their conductor, R. D. Metcalfe, Esq., Mus. Bac. The first piece was Sir Joseph Barnby's charming part-song, "Sweet and low," which was rendered effectively, and in excellent time and tune. This was followed by a madrigal, "Down in a flowery vale," by Constantius Festa. This was also well sung, but hardly with sufficient vigour for so dramatic a piece; but possibly the story of the rejected lover so enlisted the sympathy of the choir as to prevent them throwing their wonted vigour into the singing of it.

At 9.30—so intimated the official programme—the choir were to sing two other pieces; but the crowd at Dr. Moore's lecture being great, and the means of egress from the Anatomical Theatre limited, those members of the choir who had gone to the lecture had considerable difficulty in finding their way back to the Library, and still more difficulty in fighting their way into that already packed and overflowing chamber, so that it was nearly ten o'clock before the curtain "rung up" and discovered the ladies and gentlemen of the choir ready to sing of the delights of "Love and Summer" (B. E. West).

The piece was followed by a very pretty arrangement of the old English story, "The Lass of Richmond Hill." As at Christmas, all the part-songs were unaccompanied, and, to the credit of the choir, it must be stated that, although singing in a room of very hard acoustic properties, they maintained their pitch in each of the pieces with perfect accuracy. Perhaps the choir was hardly sufficiently powerful for the room, as we heard that those at the farther end of the Library could not hear very well; but we are inclined to think this state of affairs was rather due to the efforts of those who persisted in talking throughout the singing of the various pieces.

A Bartholomew's Hospital choir is always a most picturesque and pleasing sight, and is always well received by the audience; and

this occasion was no exception to the rule, and the audience showed by their hearty applause that the singing was thoroughly appreciated.

In response to the invitation of the Abernethian Society, the St. Bartholomew's Hospital A. D. C. kindly gave a performance at 10.45 p.m. in the Library.

The play chosen was J. Maddison Morton's farce, "A Regular Fix," in a shortened form.

The selection was a happy one, for in addition to the fact that the farce is extremely funny, it is a piece in which one of the earliest successes of the Club was made.

The Library was filled to overflowing. Indeed, many of the guests being unable to find standing room, had to content themselves with remaining outside in the lobby, where they could see and hear nothing.

The cast was as follows:

Hugh de Brass ...	Mr. J. BOYAN.
Mr. Surplus (a lawyer) ...	Mr. F. J. CLOWES.
Mr. Charles Surplus (his nephew) ...	Mr. J. K. BIRDSEYE.
Abel Quick (his clerk) ...	Mr. C. H. R. PROVIS.
Smiler (his bailiff) ...	Mr. B. J. COLLYER.
Emily (his niece) ...	Mr. B. W. HOLMES.
Mrs. Carter (his housekeeper) ...	Mr. J. C. POWELL.

The stage manager of the Club gave a very able representation of Hugh de Brass, especially when freed from the restraint of the somewhat unnecessary incidental music, excellently played, however, by Mr. H. J. Paterson, during the opening scene.

Mr. J. K. Birdseye raised the small part of Charles Surplus to importance by his clever impersonation, marred only by somewhat too quick a delivery. Messrs. F. J. Clowes and C. H. R. Provis afforded good support, as Mr. Surplus and Abel Quick.

Mr. J. C. Powell as Deborah Carter was laughable.

Mr. B. W. Holmes was possessed of a ladylike carriage, but he had not gauged the acoustic difficulties of the room.

Mr. B. J. Collyer, as the unwashed smiler, spoke out well, and looked quite villainous.

THE PHYSIOLOGICAL LABORATORY.

The exhibit in the physiological laboratory was confined to such experiments and objects as were likely to be of some popular interest.

In the first place, a Du Bois Reymond induction coil was arranged with the electrodes from the secondary coil dipping into basins of brine, so that the nature of the single induction shock and interrupted current could be illustrated. Adjacent to this was arranged a muscle-nerve preparation on a simple crank myograph, recording on a drum which in its revolution automatically stimulated the muscle, and thus by a series of superimposed curves the nature of fatigue of muscle was demonstrated. The new continuously recording apparatus made especially for the Physiological Laboratory was also exhibited. On one of the side benches were shown a number of sphygmographs and cardiographs, and these were frequently tested during the evening.

The effect of acids and alkalis on some of the aniline dyes, such as methyl orange, methyl violet, congo red, and phenol-phthalein in promoting various changes of colour, evoked much interest amongst many of the lady visitors; and an experiment in which expired air was allowed to pass through an alkaline solution of phenol-phthalein demonstrated in a simple manner the nature of carbonic acid.

The circulation of the blood in the web of the frog's foot was exhibited, and a number of histological specimens demonstrating the appearance of various kinds of woven fibres, sections of teeth, bone, sense-organs, starch grains, and others were shown.

The colour-mixer gave many an opportunity of understanding the nature of complementary colours; and spectroscopes arranged to show ordinary yellow light and the absorption spectra of blood and chlorophyll assisted in explaining the production of colour. Altogether the exhibit in the Physiological Laboratory seemed to be regarded as both instructive and interesting.

THE PATHOLOGICAL LABORATORY.

Dr. Klein and Dr. Kanthack exhibited a complete series of pathogenic and non-pathogenic micro-organisms. On the centre table there was an array of tubes containing full cultures on gelatine or agar-agar of various important or interesting bacteria. To begin with, there was a series of pigment-forming organisms; these were succeeded by two comparative sets of tubes, demonstrating the differences between the bacillus of enteric fever and the *Bacterium coli-commune*. There was also a good collection of organisms obtained from food—"death-carriers from the pot,"—as, for instance, bacilli from pork and veal pies, bacilli of grouse disease, swine fever, and fowl enteritis. A long list of tubes was completed by bacteria causing disease in man, among which the following were especially notable:—bacillus of tetanus and the bacillus of malignant oedema, ob-

tained from the Bart.'s Square before the steam rollers were introduced; various forms of cholera spirilla from Gravesend, Berlin, Marseilles, and Bukowina. On another table the apparatus required for the study of bacteriology was shown. Striking and interesting were the means employed for the cultivation of anaërobic germs, *i.e.* germs refusing to grow in an atmosphere containing oxygen. The same must be said of the apparatus used for the demonstration of the effect of direct sunlight on bacterial life, by which it can be shown that the rays of the sun destroy the microbes and their spores, and that the spectral colours vary in their germicidal value, blue being most active. A beautiful series of microscopic specimens, mostly prepared by Goffi, the Laboratory assistant, proved an attraction, and especially the specimens demonstrating the battle of the leucocytes against the bacteria. "Ernest" exhibited pathological microscopic specimens of high order, and "Frank" the triumphs of his glass-blowing. The Laboratory was prettily decorated, but most visitors passed by the pictures and caricatures of eminent pathologists exhibited on the walls.

THE MUSEUM.

In addition to the specimens of morbid and natural anatomy, which in themselves afforded objects of considerable interest to the laity as well as to the profession, the Museum was decorated with models of ambulances and other appliances kindly lent from Netley Hospital, and also by an exhibition of field appliances from Messrs. Evans and Wurmull. The thanks of the Abernethian Society and the Hospital in general are due to Professor Stevenson, of Netley, for his kind assistance and readiness to help by lending anything of interest, and also to Messrs. Evans and Wurmull for their excellent and interesting exhibition of field appliances.

Among the more interesting of the Netley exhibits may be mentioned the model of the plan of operations for conveying and attending the sick during an engagement. Models of the Collis Dandy and the Morley Collis Dooly, the adopted means of carrying the sick in India, as well as some books showing the effect of the Lee-Mefford rifle bullet at a 50-yard range, were also exhibited.

Messrs. Evans and Wurmull exhibited, amongst other things, the two field panniers adopted by Government, a field and base fracture box, a surgical haversack, a dressing-case, and the regulation stretcher. The field panniers contain all that is required in a field hospital; and it was remarkable, considering their small size and weight, how much was packed away.

The exhibition in the Museum seemed particularly interesting to the Nursing Staff, who handled and carefully examined the contents of the field panniers.

THE BIOLOGICAL LABORATORY.

In the Biological Laboratory there was an interesting series of microscopical specimens showing Hydrozoa, Crustaceans, Foraminifera, and organs from Insecta, Mollusca, Echinodermata, prepared by Messrs. Groves and Moreland. Instruments illustrating the process of preparing, cutting, and mounting sections were on view, together with an exhibition of specimens from the Pharmaceutical Society, and microscopical exhibitions by Messrs. Stanley, of London Bridge, and Messrs. Swift and Son, of Tottenham Court Road.

THE ABERNETHIAN READING ROOM was open during the evening as a Smoking Room.

The CONVERSAZIONE COMMITTEE consisted of the following members of the Society:

Alfred Willett, F.R.C.S.; Anthony Bowlby, F.R.C.S.; T. W. Shore, M.D., B.Sc.; W. H. Cross, B.A.; W. H. Maidlow, M.D., F.R.C.S.; E. W. Cross, M.R.C.S., L.R.C.P.; J. S. Sloane, M.B.; H. B. Meakin, M.B.; R. H. Bremridge, B.A., B.Sc.; H. D. Everington; Secretaries—F. A. Smith and T. Ashby Barron.

Abernethian Society.

At a General Meeting of the Society held on May 2nd, 1895, the following gentlemen were elected Officers of the Society for the Session 1895-6.

Presidents.—Mr. H. B. Meakin, Mr. J. K. Murphy.

Vice-Presidents.—Mr. S. Gillies, Mr. F. A. Smith.

Treasurer.—Mr. Alfred Willett.

Secretaries.—Mr. R. H. Bremridge, Mr. W. R. Stowe.

Additional Committeemen.—Mr. J. A. Willett, Mr. A. L. Ormerod.

The Annual View Day.

THE second Wednesday in May brought with it the Annual View Day in 1895, as it has done for so many years in the past.

By pushing on the work the Hospital authorities just managed to get the rearrangement of the square completed in time for the occasion. There is no doubt that the changes have been a great improvement. The "gardens" beneath the trees were at their best but poor affairs, and when not at their best were more than ugly. No one will regret their loss, while every one is agreed that the seats under the trees are a distinct advantage.

All the wards were decked with flowers and thrown open to the crowds of visitors. It appears that an official request had been made to the Sisters asking them not to allow such extensive decoration as had hitherto been customary, on the ground that it was excessive, and involved the waste of a great deal of time and not a little money. Hence the wards presented a very different appearance from that which they displayed last year. The same careful arrangement and excellent taste were, however, seen in all the wards, and though there were fewer flowers the effect was very pretty. The general opinion seemed to be that Martha held the first place with a beautifully planned contrast of red and white; the ward lends itself to decoration, and every advantage is taken of this fact, which perhaps gave it a pull over the others.

To mention special wards is, however, unfair, since all were so pretty.

The official tour of inspection was carried out in the customary manner—the stereotyped official questions were asked in each ward in turn, and received the same stereotyped answers. After the inspection came the arrival of visitors, who were well supplied with tea and its accessories in the different wards.

Some men were heard to deride the "use" of View Day. It may be that few if any of its original purposes are served, but inasmuch as it constitutes a general show day for the Hospital, when friends can be shown over without interfering in any way with the working of the Hospital, and because it is an old and ancient custom of the oldest Hospital, we trust that the Annual View Day will always have a place in the Hospital Calendar.

THE VIEW DINNER.

At a quarter to seven in the evening the View Dinner was served in the Great Hall, the diners consisting of the Treasurer, Governors, Staff, Resident Staff, and Prize Students.

After the dinner the Treasurer proposed the health of the "Queen and Royal Family," and stated that the Prince of Wales had intimated his intention of paying a visit to the Hospital during the coming year, but that the Prince preferred to come on some every-day occasion when he could see the ordinary working of the Hospital. This announcement was received with tremendous cheering, and the toast was enthusiastically drunk.

The next toast, "Prosperity to St. Bartholomew's Hospital, and Health and Ease to the Poor Patients," was also proposed by the Treasurer in a most interesting speech.

Sir Trevor first paid a tribute to the memory of Sir William Savory, whose election time after time to the Presidency of the Royal College of Surgeons was, he believed, a unique honour. He further expressed his regret, which was heartily endorsed by every one present, that the age-limit had necessitated the retirement of Mr. Power from the Visiting to the Consulting Staff. He congratulated the authorities on having secured so able a successor.

In commenting on the past year the Treasurer mentioned a diminution in the numbers of the casualty patients as compared with the phenomenal numbers of 1893. This diminution he attributed to a wet summer, which had often been noticed to cause a falling off in the numbers.

The New Operating Theatre was mentioned, together with its unfortunate, but happily not serious, fire, due to the non-observance of a wooden beam near the fireplace, which showed the risk of pulling about old buildings of which detailed plans were not in existence.

The Hospital was congratulated on the foundation of the post of Pathologist, and still further on its good fortune in securing the services of so able a man as Dr. Kanthack.

In regard to the future, that most interesting topic the lighting of the Hospital, was fully explained. The present annual cost of lighting the hospital is £2000; to light the hospital with electric light, taking the current from the mains already in Smithfield, would exactly double the cost, while for the hospital to produce its own electricity would involve an initial outlay of £16,000, but would result in ulti-

mate economy. It had been decided to adopt one of these plans, unless "incandescent gas-light," or "the light of the future," as it had been called, should prove to be superior. As soon as that question was decided the work of improving the lighting of the hospital would be commenced.

Sir Trevor informed the company that £3600 had been allocated to the improvement of the small house property in the possession of the Hospital, which would in future be under direct supervision; this would maintain the good name and reputation of the Hospital. The receipt of a legacy of £10,000 was announced, which would have been much more but for the very heavy legacy duties. The Nurses' Home, which Sir Trevor said he never entered without being ashamed of it, was to come in for improvement, and he hoped that when our friends and neighbours of Christ's Hospital made up their minds to secure a new site, enough ground would be obtained at a moderate cost to enable an entirely new home to be built. The Staff, he said, owed a debt of gratitude to the admirable Nursing Staff, which was second to none. The first-class certificate of St. Bartholomew's Hospital was known all over the world, and a nurse who held it could make her way anywhere. His only regret was that, owing to the close relation in which the Nursing Staff was brought with the Junior Staff, the more eligible members were so often married off.

In conclusion Sir Trevor, amidst continued applause, said how glad he was to see Mr. Mark Morris, who had served the Hospital for over half a century, and whom he (Sir Trevor) had known for forty years, still occupying the vice-chair.

Mr. CRUMP, Q.C., proposed the health of the "Medical and Surgical Staff," which was replied to by Dr. Church and Mr. Willett.

Dr. CHURCH thanked the authorities for their liberality, which allowed the Staff everything they could ask for for the sick poor. He pointed out the close way in which the Hospital and Medical School were intertwined; and, referring to the remuneration of the teachers, said that if the existing circumstances continued to operate they would very soon have to pay for the privilege of being members of such a teaching staff.

Mr. WILLETT expressed his hope that a Chair of Science would soon be endowed. He regretted the absence of Mr. Thomas Smith, with the humour which Mr. Smith always introduced. He congratulated Mr. Smith on the great distinction which our Sovereign had so lately put upon him. Mentioning our loss of Sir William Savory, he described him as an "example to every member of the Staff." The New Operating Theatre, he said, was a very great advantage to the Hospital, and he attributed the credit of it, as regards the details of its fittings, almost entirely to Mr. Butlin.

Mr. WILLETT proposed the health of "The Treasurer," to which Sir Trevor replied, proposing in turn the health of "The Almoners of this Hospital."

Mr. BICKERSTAFF responded, and proposed "The Visitors," Lord Justice Lopes replying in a humorous speech.

Professor ROOKE, F.R.S., proposed the last toast, "The Prizemen." Mr. Sloane replied for the Prizemen, and the company separated.

During the intervals between the speeches several violin solos were admirably played by Mademoiselle Freda Scotta.

Notes.

A NEW EDITION of Mr. Bowlby's 'Surgical Pathology and Morbid Anatomy,' if not already published, will be ready in a few days.

IT IS ANNOUNCED that Dr. Edkins, Demonstrator of Physiology, has been appointed to lecture on Chemical Physiology to advanced students during the present Summer Session. Dr. Edkins has made this branch of Physiology a special study, and his lectures will no doubt be highly appreciated.

WE ARE GLAD to observe that the Medical School authorities are paying special attention to the applications of Chemistry in Physiology and Pathology, in instituting the

course of demonstrations by Dr. Kanthack on Chemical Pathology, and the advanced course of Chemical Physiology by Dr. Edkins.

Dr. E. J. TREASURYVALA has been appointed Assistant Electrician to the Hospital.

THE WILL of the late Sir William Savory has been proved, the gross personalty being £93,194 19s. 4d.

DR. CLAYE SHAW has been appointed Examiner in Mental Physiology in the University of London.

DR. J. CALVERT, Dr. F. W. Andrewes, and Dr. W. H. Hamer have been elected Fellows of the Royal College of Physicians.

THE SENIOR SCHOLARSHIP has been awarded to E. C. Morland.

AT THE LAST MEETING of the St. Bartholomew's Hospital Nurses' Debating Society we hear that a lively debate took place on the motion, "That the extension of the franchise to women would be beneficial to the State;" and that, although the meeting was not unanimous, the motion was carried by a large majority. Some people never seem to be happy unless engaged in some agitation or other, but we confess we cannot understand this frame of mind. Women's sphere is the domestic hearth, and not the political arena. If they had votes, we wonder what the nurses would do with them! Do they know themselves?

THE NEW ELEMENT, argon, is not quite so inert as was at first supposed. The discoverers of this body could not induce it to combine with any ordinary substances, but M. Berthelot has at last shown that it forms compounds with benzene, and under the influence of silent electrical discharges it is capable of forming new combinations with other hydrocarbons. It thus bears a striking resemblance to nitrogen, which was shown some years ago to be capable under similar conditions of combining with benzenes and with carbohydrates. Are we yet sure it is *not* nitrogen?

WE WONDER how much longer the hospital authorities will permit the almost intolerable nuisance in the shape of cats, which make our square a prowling ground by night. Not content with the square and ward staircases, they invade the college and house surgeons' quarters, and disturb the hard-earned rest of some poor weary officer by their hideous yells. From a sanitary point of view, too, cats are out of place in a hospital, and there is no doubt that they can and do carry infection. When it is considered best to supplant the merino dresses of the sisters for "washing" ones, as being more aseptic, it would seem logical to suppress the cats also.

SURGEON-CAPTAIN WHITCHURCH, I.M.S., whose heroic conduct is spoken of in such glowing terms in the diary of Dr. Robertson on the defence of Chitral, is a "Bart.'s man." Surgeon-Captain Whitchurch performed the gallant and daring act of carrying Captain Baird into the fort under heavy fire from the enemy when Captain Baird had been mortally wounded. We are proud that such a gallant officer should be found amongst the *alumni* of St. Bartholomew's.

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THE JUNIOR SCHOLARSHIPS have been awarded to—(1) S. R. Scott; (2) F. C. Borrow and H. G. Wood-Hill (*eq.*).

* * *

DR. S. J. HICKSON, Professor of Zoology at Owens College, has been selected by the Council for election to the Fellowship of the Royal Society.

* * *

IT IS with the greatest regret that we hear of the sudden death of Sir George Buchanan, M.D., F.R.S., who was the father of Dr. G. S. Buchanan, and preceded Dr. Thorne-Thorne as Principal Medical Officer to the Local Government Board.

* * *

A BILL to give effect to the recommendations of the Gresham University Commission, appointing a Statutory Commission to reform the University of London, was introduced into the House of Lords on Thursday, May 9th.

* * *

IT HAS BEEN DECIDED that there shall be a dinner after the Past *v.* Present match opening the Club ground on June 8th.

The dinner will take place at the Holborn Restaurant. The tickets will be 4s. Present and Past Bart.'s men who wish to attend should apply to the Secretary of the Amalgamated Clubs as soon as possible.

* * *

THE CONTINUATION of Dr. Lewis Jones' paper on Paralysis of the Upper Extremity will appear in the next issue.

* * *

AT THE MEETING of Convocation of the University of London on May 14th, Mr. Bompas' motion to rescind the three resolutions passed at the last Meeting of Convocation, was negatived by 117 to 238.

At the election for the Annual Committee Dr. Shore and Mr. Waring were re-elected.

* * *

THE DATE of the Annual Summer Concert given by the Junior Staff and the Musical Society has been fixed for Tuesday, June 25th.

Past members of the Junior Staff desiring tickets are requested to communicate with one of the Hon. Secs.: Mr. H. J. Paterson and Mr. R. Sevestre.

* * *

ALL PAST Students who wish to play in the "Past *v.* Present" Cricket or Tennis Matches on June 8th are reminded to send their names at once to H. Bond.

Amalgamated Clubs.

NEW MEMBERS.

C. R. A. Grimshaw.	C. L. Chalk.	A. K. Pollock.
G. M. Seagrove.	W. P. Miles.	A. T. Compton.
H. C. Adams.	A. E. Thomas.	J. A. Lloyd.
P. M. Perkins.	J. F. Robertson.	D. A. H. Moses.
J. C. P. Hemming.	H. W. Pank.	H. E. Ashley.
H. N. Marrett.	E. E. Schloesser.	E. W. N. Guinness.
R. Thorne-Thorne.	A. H. Bostock.	J. K. N. Marsh.

FINANCE COMMITTEE.

A SPECIAL MEETING of the Finance Committee was held on Thursday, May 2nd, when general arrangements for the pavilion and ground were discussed. It was decided to arrange for practice in high jump, putting shot, throwing hammer, and hurdle racing. Arrangements for the supply of refreshments, &c., were also made.

THE CLUB GROUND AT WINCHMORE HILL.

THE Club Ground is now available for cricket and tennis, and arrangements have been made with the Great Northern Railway by which members can obtain return third-class tickets at reduced fares on applying at the booking offices and showing their cards of membership. The arrangement applies to the following stations, and the fares are as under:

Farringdon Street	11d. return.
King's Cross	10d. "
Holloway	8d. "
Finsbury Park	7d. "
Harringay	6d. "
Hornsey	5d. "
Wood Green	4d. "

CRICKET CLUB.

THE prospects for this season are fairly bright, and there is every reason to expect a team at least as good as that of last year, if not better. At present there seems to be a lamentable want of good bowlers, and it may be safely said that any Freshman who turns up regularly on the new ground at Winchmore Hill, and shows good form with the ball, will have a very good chance of representing the Hospital in the Cup Competition.

The ground is now open for practice, and the 4.4 p.m. and 4.40 p.m. trains from Farringdon Street are very convenient for those who are working hard, and will get them down in ample time for practice at the nets. The first match at home is against the M.C.C. and Ground, when it is hoped that there will be a good attendance of men on the ground to cheer on the team.

H. Bond has been elected captain of the 1st XI for the season, and J. Johnston captain of the 2nd XI.

There are twelve 2nd XI matches this year, so that there will be a much greater chance than usual of playing for those men who do not get into the 1st XI.

The formal opening of the ground will take place on June 8th, when a match between the Past and Present of the Hospital will take place. There are three or four well-known names already down for the Past eleven, so that the match will probably be in every way a good test of the strength of the team.

It is very difficult for the secretaries to find men out, unless they turn up on to the ground, so that if any men who have been overlooked will make themselves known to the captain or secretaries, they will save a great deal of trouble. It is proposed to hold one or two practice games this month, in order to discover fresh talent, and especially bowlers.

The following are the Officers of the Cricket Club for 1895:

<i>President.</i>	
DR. CHURCH.	
<i>Captain 1st XI.</i>	<i>Captain 2nd XI.</i>
H. BOND	J. JOHNSTON.
<i>Hon. Secretaries.</i>	
F. H. NIMMO.	E. F. ROSE.

Committee.

J. F. FERNIE F. W. CROSSMAN
A. H. SKEV J. W. NUNN
E. G. SIMMONDS G. C. MARRACK

J. A. WILLETT.

MATCH LIST.

1ST ELEVEN.

Saturday, May 4th,	R. I. E. C.	at Cooper's Hill.
" "	11th, St. John's School	" Leatherhead.
Wednesday, " "	15th, M.C.C. and Ground	" Winchmore Hill.
Saturday, " "	18th, Southgate	" Southgate.
" "	25th, Hornsey	" Winchmore Hill.
Thursday, " "	30th, Crystal Palace	" Crystal Palace.
Saturday, June 1st,	" "	" "
Monday, " "	3rd,	" "
Thursday, " "	6th, Clapton	" Clapton.
Saturday, " "	8th, Past v. Present	" Winchmore Hill.
" "	15th, Enfield	" Ealing. "
Wednesday, " "	19th, Ealing	" Ealing. "
Saturday, " "	22nd, Barnet	" Barnet.
" "	29th, Bishop's Stortford	" Bishop's Stortford.
Friday, July 5th,	Hornsey	" Hornsey.
Saturday, " "	6th, Fox, Esq., XI	" Away.
" "	13th, Southgate	" Winchmore Hill.
Wednesday, " "	17th, Clapton	" " "
Saturday, " "	20th, Nondescripts *	" " "

2ND ELEVEN.

Saturday, May 18th,	Barnet	at Barnet.
Wednesday, " "	22nd, Winchmore Hill	" Winchmore Hill.
Saturday, " "	25th, London Hosp. (2nd XI)	" Lower Edmonton.
Monday, June 3rd,	Pembury	" Pembury.
Wednesday, " "	5th, Guy's Hosp. (2nd XI)	" Honor Oak.
" "	12th, Blackheath School	" Blackheath.
" "	19th, Univ. Coll. School	" Winchmore Hill.
Saturday, " "	22nd, Berkhamsted School	" Berkhamsted.
" "	July 6th, St. Thos. Hosp. (2nd XI)	" Winchmore Hill.
Wednesday, " "	10th, Guy's Hosp. (2nd XI)	" " "
Saturday, " "	13th, Southgate	" Southgate. "

NOTICE.—The Secretary of the Cricket Club will be very glad to receive the names of any old Bart.'s men wishing to represent the Past v. Present on June 8th at the opening of the new ground at Winchmore Hill. The committee to select the team will meet shortly.

What are Dreams?



It happened the other day to come across the following statement in a newspaper, and the reading of it set us thinking on the question—What are dreams?

"Mr. J. J., a retired police officer and School Board official, in receipt of a pension from both services, living at Greenwich, has a slaughter-house at the rear of his premises, but inasmuch as the County Council declined to renew his licence, he made up his mind to build a cottage in the place of the slaughter-house. Mr. M., builder, was about to commence operations, but asked Mr. J. to allow him to postpone the work for a week. This was granted, and Mr. J. meanwhile, thinking a good deal of the matter, dreamed one night that he had found a bag of money between the outer wall of the slaughter-house and the inside match-boarding. He happened to mention the dream to his wife, who had been the widow of the previous occupier of the premises, and she remembered that on one occasion, some twenty-five years ago, her husband lost a bag of money in the slaughter-house, and that, notwithstanding a diligent search, it was never found. Mr. J., who had not heard of the loss before, at once set to work to unearth the treasure, and having pulled down the match-boarding, he came upon a worm-eaten bag which proved to contain twenty-one sovereigns, two butcher's knives, and other articles. Mr. J. supposes that the bag was placed upon a small shelf and slipped down between the outer and the inner walls."

The occasional occurrence in the newspapers of some such passage as the above shows that the superstition which in former times was attached to dreams still lingers. We read in history of instances in which dreams were believed to be prophetic, or were regarded as revelations from the Deity. Every one knows the old biblical story of Joseph as the interpreter of the dreams of Pharaoh's servants. We have all read

of the dream of Joan d'Arc, and of the divine message supposed to have been conveyed by it. It is curious that even now, in this practical age, many still have a feeling of something supernatural about dreams. We suppose it is because their nature is only ill understood, and that with ordinary folk some mystery is still attached to them. We will, however, try to give some sort of answer to the question, and at once assume that the actions of what we call the mind are functions of the brain, and that all manifestations of consciousness result from metabolic activity of the cerebrum.

Man, normally, lives in two extreme states with respect to consciousness—the waking and the sleeping. As everyone knows there occurs an alternation between these two states. In the normal man the waking state is characterised by full consciousness, and the possession of those faculties which we call thought, memory, reasoning, judgment, volition, and the like. In true and complete sleep the whole of these normal attributes of the mind are in abeyance.

The two extreme states above referred to, consisting as they do of full functional activity of the brain on the one hand, and its diminished functional activity on the other, are associated with variations in blood-supply. The brain is, like every other organ, subject to variations in functional activity, concomitant with alterations in metabolism and in vascularity. During sleep the brain is anæmic, but whether this condition is a cause, or an effect, or a concomitant merely, of sleep, it is difficult to say. The phenomena of sleep are found in an exaggerated degree in the hibernation to which cold-blooded animals are subject; in them the advent of the diminished temperature of winter depresses tissue-change, not only of the nervous, but also of the muscular and glandular organs. In hibernation the activity of the respiratory centre is either wholly in abeyance, or only occasional impulses proceed from it to the respiratory muscles, and the heart beats slowly and infrequently. The periodical loss of consciousness and depression of functional activity in hibernating animals is of the same nature as the daily rhythmical decrease of activity in man, but in sleep the phenomena though not confined to the cerebral organs affects them most. In sleep the molecular activities of all the tissues are somewhat depressed, the pulse is slower, the breathing less rapid, the muscles relaxed, the secreting organs and metabolism decreased, and the temperature is lowered. It is difficult to explain the diurnal periodicity which characterises the alternation of sleeping and waking. It is, we imagine, to be sought in connection with alterations in the extent of the molecular changes which are constantly taking place.

There are, however, many analogies. There is, first, the rhythmic systole and diastole of the cardiac muscle, associated as they are with changes in the heart's metabolism; and we have the periodic increases and decreases of blood-pressure, which are seen in the Traube-Hering curves. In all these cases the state of relative quiescence is due to exhaustion after the preceding phase of action, and in each case the period of repose is characterised by an increase of constructive or anabolic changes preparatory, as it were, to the succeeding onset of explosive activity.

But to return to our subject. Let it be assumed that sleep is due to changes in molecular motion of the brain particles associated it may be with altered blood-supply. Just as these are varying degrees of functional repose of other organs, so of the brain—we have numerous intermediate states of consciousness between waking and complete sleep, such as dreaming, the sleep vigil, somnambulism, and the like. Some have doubted whether during sleep the cerebrum is ever absolutely quiescent, and say that a certain amount of brain activity—akin to dreaming—is always present. That thought may continue during sleep is fully admitted. It is seen in those cases in which some difficult problem that has engaged attention just prior to sleep has been found to be solved in the morning without the individual having any recollection of it. Thought and reasoning, as apart from consciousness or volition, may go on during sleep. This is *unconscious cerebration*.

The "mind" is made up of a heap or collection of PERCEPTIONS, of which we may distinguish two main classes—IMPRESSIONS and IDEAS. Impressions include (a) all our *sensations*, which we call sight, hearing, smell, taste, touch, and resistance or muscular sense; (b) our feelings of *pleasure or pain*; and (c) our sense of the *relation* of our sensations to each other, *i. e.* their *co-existence*, their *succession* in time, and their *similarity* or dissimilarity. All these impressions are innate, they are produced by the molecular changes taking place in the organ of the mind, the cerebrum, in response to the stimulus of some external and unknown cause.

Ideas, on the other hand, are images or reproductions in memory, thinking or reasoning of antecedent impressions of any or whatever kind. A *simple* idea is a faint but more or less exact copy of some preceding impression. A *complex* idea is one which we can resolve

into several simpler constituents, and in a complex idea the arrangement of the component simple ideas may not be the same as that of the antecedent impressions of which they are the copies.

The molecular changes in the nerve-cells of the cerebral substance which produce the states of consciousness called "impressions" are the result, then, of some external stimulus; with the advent of the stimulus they quickly reach a maximum intensity, followed by a rapid disappearance on the removal of the stimulus. But there is something more than this—the cerebral cells, after a stimulus has once reached them, are more or less permanently affected. Upon this peculiar property of cerebral substance depends the function of the mind called *retentiveness* or *memory*, and it is by virtue of this property that *ideation*, or the generation of images of impressions or groups of impressions is possible. Impressions once received can be easily revived again by stimuli more or less different from those to which they owe their origin. It is in this way that dreams are produced.

Dreams occur when the sleep is not too profound—when, in fact, consciousness is sufficient for the perception of ideas, but not for the proper appreciation of impressions. In the dreaming state, volition, reasoning, judgment, and self-consciousness are generally abolished. Released from the controlling influence of the will, reason, and judgment, ideas run riot, as it were, and succeed each other without intermission and irrespective of former relations of co-existence and succession. Thus it follows that in dreaming, ideas assume new and grotesque shapes, often bearing only an imperfect resemblance to the simple antecedent impressions out of the ideas of which they are compounded.

Although often in the dreaming state, the brain is either wholly unconscious (or very imperfectly conscious) of *new* impressions, yet this is not always so. In many cases it appears that some new yet faint or imperfectly appreciated impressions are inextricably blended with the totally different ideas, which either they or some other stimulus have revived. How frequently, in the experience of everyone, does a dream terminate suddenly in a sense of falling, or in an imagined thunderclap, and the sleeper awake only to find that he has rolled out of bed, or that some one is banging vigorously at the door!

Some say that dreams are of momentary duration—however long may appear to be the time they occupy to the dreamer,—and that the noise or other stimulus which awakens the sleeper is the exciting cause of the dream itself. It is, we think, quite certain that a stimulus of some sort is requisite to bring about those molecular changes in the cerebral cells upon which dreams depend. In sleep, we must remember, the inhibitory action of volition, reason, judgment, and other functions of the cerebrum is removed, and that not only is reflex action more marked, but the controlling influence of the higher faculties is absent. The stimuli, or as we may call them, exciting causes of dreams, may be classified thus—(a) causes, residing in or acting directly upon the cerebral substance itself; (b) causes acting through the blood, either by altering its quality or quantity, *e.g.* alcohol, cerebral stimulants, hashish, &c.; (c) causes resident in the individual, and acting as stimuli through the nerve channels, *e.g.* an overloaded stomach, or other sensations from internal organs; (d) causes dependent on the reception of stimuli from the external world, which though imperceived as new impressions, may nevertheless revive antecedent impressions as ideas.

The factors in dreaming then, seem to be—(1) partial *loss of consciousness*. This must be (a) sufficient to abolish or greatly diminish volition, judgment and the higher mental faculties, *i.e.* to remove *cerebral inhibition*; (b) to greatly impair power of *perception* of impressions from the external world; (c) to abolish self-consciousness—but it must be insufficient to destroy *ideation*; (2) the presence of a sufficient stimulus.

Often the stimulus appears to consist of a continuance into sleep of the subject which engaged attention immediately before the advent of sleep, and around this topic the ideas seem to group themselves in new and wholly imaginary shapes. A good instance of this is found in Coleridge's 'Kubla Khan,' which he composed during sleep—if that can be called composition—in which the images rose up as things with a production of corresponding expressions without any consciousness of effort or of the external world. Just prior to falling to sleep in his chair, Coleridge was reading the following sentence in 'Purchas' Pilgrimage': "Here the Khan Kubla commanded a palace to be built and a stately garden thereunto, and thus ten miles of fertile ground were enclosed within a wall." On awakening, Coleridge instantly set to work to write down the lines he had composed, but after writing a fragment was interrupted for an hour and found that he was then unable to complete it, for although he had a general idea of the purport of the vision, the rest of the poem had passed away.

"The shadow of the dome of pleasure
Floated midway on the waves;
Where was heard the mingled measure
From the fountain and the caves;
It was a miracle of rare device,
A sunny pleasure dome with caves of ice."
&c. &c.

X. Y. Z.

Clinical Lectures for the Summer Session.

Medical.—Fridays, at 1 p.m.

May 10th.—Dr. Church.
" 17th.—Dr. Hensley.
" 24th.—Dr. Church.
" 31st.—Dr. Gee.
June 7th.—Sir Dyce Duckworth.
" 14th.—Dr. Hensley.
" 21st.—Dr. Church.
" 28th.—Dr. Gee.
July 5th.—Sir Dyce Duckworth.
" 12th.—Dr. Hensley.

Surgical.—Wednesdays, at 2.45 p.m.

May 15th.—Mr. Smith.
" 22nd.—Mr. Smith.
" 29th.—Mr. Willett.
June 5th.—Mr. Willett.
" 12th.—Mr. Willett.
" 19th.—Mr. Marsh.
" 26th.—Mr. Marsh.
July 3rd.—Mr. Marsh.
" 10th.—Mr. Butlin.
" 17th.—Mr. Butlin.

Appointments.

BUCHANAN, G. S., M.D., B.Sc.(Lond.), has been appointed Medical Inspector to the Local Government Board.

MORRISON, J., M.D.Lond., M.R.C.S., has been appointed Resident Medical Officer to the Queen Charlotte's Lying-in Hospital.

GRIFFITHS G. BATHO, M.R.C.S., L.R.C.P., has been appointed an Assistant Surgeon in H.M.'s Prison Service, and is at present located at Portland.

Examinations.

THE FOLLOWING Bart.'s men have passed the First Examination of the Conjoint Board in Biology:—J. Perks, S. P. Trood, R. L. Thornley, R. Bigg, B. J. Boursot, T. W. Brown, H. B. Butler, G. E. Cathcart, R. T. Cooke, C. V. Cornish, W. C. Douglass, C. D. A. Dowman, F. E. Everington, H. E. Flint, W. E. Graham, H. S. Greaves, P. B. Grenfell, W. G. Hamilton, J. D. Hartley, G. J. A. Leclizio, W. H. Leonard, J. C. Lewis, S. Neave, J. O'Hea, H. G. Pinker, A. B. Pugh, W. H. Randolph, C. C. B. Thompson, R. H. Vincent, R. Walker, J. A. West, E. Wethered, C. M. K. White, E. S. Wilkinson, H. G. Wood-Hill, R. E. H. Woodforde, D. Davies, S. Haig, H. R. Humby, J. D. Humby.

IN "BONES," the following have been successful:—A. R. Baker, N. C. Beaumont, F. C. Borrow, H. Burrows, J. M. Collyns, R. T. Cooke, C. N. Cornish, W. S. Danks, D. Davies, C. S. Frost, T. H. Gandy, H. Goodman, W. E. Graham, H. S. Greaves, P. B. Grenfell, T. B. Haig, J. D. Hartley, C. S. Hawes, D. Jeaffreson, W. H. Leonard, J. C. Lewis, G. H. Low, S. Neave, J. O'Hea, A. B. Pugh, W. H. Randolph, E. Russell-Risien, S. R. Scott, J. J. S. Scrase, S. Stevens, H. S. Thomas, A. L. Vaughan, P. L. Vawdrey, L. A. Walker, A. J. W. Wells, E. Wethered, C. C. K. White, H. G. Wood-Hill.

A. W. C. LINDSAY has passed in Chemistry and Chemical Physics under old regulations.

IN MATERIA MEDICA AND PHARMACY under old regulations, H. Clarke, E. C. Corfield, C. H. G. Prance, E. Tyson, and N. Wakkie have passed.

IN ELEMENTARY ANATOMY AND PHYSIOLOGY, V. A. S. Bell, C. R. V. Brown, and E. P. du Heume have passed.

B. E. G. BAILEY, F. R. Eddison, C. S. Morgan, and A. W. S. Sheldon have passed the First L.S.A. in Anatomy and Physiology.

A. HAY and H. Morris have passed the First L.S.A. in Physiology.

IN ANATOMY and PHYSIOLOGY of the Second Conjoint M. H. G. Fell, R. H. Lloyd, P. O. Gruber, W. T. Rowe, R. Raines, S. A. Millen, W. C. Long, A. J. McN. Cuddon-Fletcher, and G. C. Marrack have been successful.

H. C. HARRISON and A. J. Andrew have passed the Second Conjoint in Anatomy, and N. Buendia has passed in Physiology.

C. BUTTAR, M.B., B.C., E. G. Carpenter, L.R.C.P., M.R.C.S., H. J. Johnson, M.B.Lond., and G. P. Shuter, M.B., B.C., have passed the examination for the D. P. H. Cambridge.

THE FOLLOWING have passed all the subjects of the Final Conjoint, and have received their diplomas of L.R.C.P. and M.R.C.S.:—G. V. Worthington, T. H. Butler, S. Gillies, E. W. Blackburn, T. P. Legg, J. E. Jones, J. S. Stevenson, W. E. N. Dunn, E. W. H. Groves, G. H. Lowry, M. G. Pearson, H. E. Thompson, W. G. Clark, M. W. S. Isacke, S. E. Rigg, J. H. Meacher, A. Woodward, T. L. Webster, H. Stanley, O. W. Owles, W. H. Horton, P. M. Burnett, P. E. Adams, E. J. Toye, and W. Norbury.

F. W. GALE has passed in Surgery at the Final L. S. A., and J. W. F. Graham has passed in Forensic Medicine.

IN CHEMISTRY and PHYSICS under new regulations at the Conjoint Board the following have passed:—W. P. Dyer, A. H. Hayes, J. W. Nunn, D. W. Purkis, S. Stevens, and H. S. Thomas.

HOWARD MARSHALL and J. J. Taylor have taken the degrees of M.B. and B.C. in the University of Cambridge.

W. H. SYMONS has taken the D.P.H. of the University of Durham.

E. FERRAND, W. H. Maidlow, and B. B. Thorne-Thorne have received the degree of M.D. of the University of Durham.

F. C. FORD and R. W. Gilmour have taken the degree of M.B. in the University of Durham.

R. W. GILMOUR has also taken the B.S.

L. T. GILES, J. Hobday, H. W. Lance, H. J. May, E. W. Ormerod, and R. D. Parker have passed Part I (Surgery and Midwifery) of the Third M.B. Cambridge.

J. A. ARKWRIGHT, J. Attlee, and L. G. Glover have taken the degree of M.D. in the University of Cambridge.

AT THE SECOND PART of the 3rd M.B. Cambridge the following Bart's men passed:—W. G. Clark, A. Eichholz, J. K. Murphy, E. W. Ormerod, W. G. Richards, and G. V. Worthington.

F. W. CROSSMAN and H. R. Ellis have passed the First M.B. Durham in Chemistry, Physics, and Botany.

E. S. WILKINSON has passed the First M.B. Durham in Biology, Chemistry, Physics, and Elementary Anatomy.

PRIMARY FELLOWSHIP.—Bennett, W. E., Lawson Dick, J., Hewer, Molesworth.

Obiter Dicta.

I do not think that a musical murmur is always a certain sign of organic valve disease. I have known two cases, in

both of which a musical murmur could for some weeks be heard at some distance from the patient. Both of these recovered, lost the murmur, and presented no other sign of heart disease either then or since. Of course most cases of musical murmurs occur in organic disease of the heart.—
DR. WEST.

To Past Students.

OPENING OF THE NEW GROUND ON SATURDAY, JUNE 8TH.

ARRANGEMENTS have been made for the formal opening of the New Ground at Winchmore Hill on the afternoon of June 8th. On that day Cricket and Lawn Tennis matches of "Past versus Present" will be played, commencing at 11 a.m.

Invitations to be present are being issued to the Governors and Staff of the Hospital, as well as to the Sisters and Nurses. The present members of the Amalgamated Clubs most cordially invite all OLD STUDENTS to be present on this occasion, and cards of admission will be issued to all who will apply *by letter only before June 1st* to Dr. Shore at the Warden's House. All information as to the best means of access to the ground will be supplied with the cards of admission, and special trains will be arranged for as soon as the Committee is informed of the numbers likely to be present.

AMALGAMATED CLUBS' DINNER.

Arrangements have been made to celebrate the opening of the New Ground by a Dinner on the evening of June 8th.

The price of the dinner will not exceed 4s., and in view of the large numbers likely to be present, all members are particularly requested to send in their names as soon as possible.

Any OLD STUDENTS who may wish to attend, are requested to write at once to H. Bond, Hon. Sec. of the Amalgamated Clubs.

Reviews.

THE YEAR-BOOK OF TREATMENT FOR 1895 (Cassell and Co., London).—This is the eleventh year in which this book has appeared. In it will be found a *résumé* of the new methods of treatment which have been published during the past year. It presents in a compact and easily accessible form the recent advances which have been made in the different methods of treatment of disease, and on this account it can be recommended to every practitioner of medicine who wishes to keep himself informed of the new methods of treatment which have been adopted both in this country and abroad. Owing to some cause it has been found impossible to include the usual chapter upon Bacteriology. This is to be regretted, since, at the present time, this subject is of very great importance, owing to the many and valuable additions to our knowledge of the pathology of disease which have recently been made with the help of this science.

A MANUAL OF PRACTICAL MORBID ANATOMY, BEING A HANDBOOK FOR THE POST-MORTEM ROOM, by H. D. Rolleston, M.A., F.R.C.P.,

M.D., and A. A. Kanthack, M.D., M.R.C.P. (Cambridge University Press), 1895, 240 pages, price 4s.—In this volume Drs. Rolleston and Kanthack have given a most excellent account of the procedures which are to be adopted in the examination of a body post mortem. In the preface, instructions are given how to preserve specimens which it is desired to keep for museum purposes. This will be very useful, since so many good and valuable specimens are spoiled owing to the want of knowledge as to how they should be prepared. The book is divided into eight chapters, each of which is subdivided into a number of sections. In these chapters all the stages of a post-mortem are described in detail. Very clear instructions for the removal and examination of the various viscera and organs are given. The book is without doubt the best manual upon the subject on which it treats in the English language, and on this account we recommend it to all students of St. Bartholomew's. With this book as his guide, no one ought to fail in making a complete post-mortem examination.

A COURSE OF ELEMENTARY PRACTICAL BACTERIOLOGY, INCLUDING BACTERIOLOGICAL ANALYSIS AND CHEMISTRY, by A. A. Kanthack and J. H. Drysdale, M.B., M.R.C.P. (London, Macmillan and Co.), 1895, price 6s.—Drs. Kanthack and Drysdale have collected in this book the class slips and notes which they have been accustomed to give out to the students attending the course of bacteriology in the hospital. The work is divided into three parts, each part being divided into a number of lessons. The first portion is devoted to general bacteriology, the second to bacteriological analysis, and the third to bacteriological chemistry. The instructions which are given for the performance of the various procedures are very lucid and complete, and any student who makes himself master of the various methods described will become well acquainted with the science of bacteriology, and will be able to carry out most of the examinations for micro-organisms which he will meet with in his practice. The authors rightly insist upon the necessity of every would-be practitioner of medicine making himself well acquainted with the elements of practical bacteriology. We congratulate the authors upon having produced a most excellent manual, and hope that all St. Bartholomew's students will make use of it, and so make themselves able to carry out the various bacteriological examinations which are requisite for making diagnoses in the wards of the hospital.

AIDS TO SURGICAL ANATOMY, by Eugene S. Yonge (London, Baillière, Tindall, and Cox), 1895, price 2s. 6d.—In this volume the author has attempted to condense and present in a readable form the chief facts in anatomy and surgery. If the reader has mastered his subject and wishes to revise it quickly before going up for an examination he may find the book of some value, especially if he has not been in the habit of making notes and abstracts from his text-books and lectures. If, however, this is not the case the book cannot be recommended, as it is too condensed, and assumes a certain knowledge of the subjects of which it treats. We have noticed several small errors, notably on page 143, where the peronei are called "flexors longus and brevis."

SURGERY, ITS THEORY AND PRACTICE, by W. J. Walsham, F.R.C.S., fifth edition, price 12s. 6d. (J. & A. Churchill).—"Walsham's Surgery" is said to be the most popular text-book in our profession, and this statement is borne out by the figures of its sale. The new edition will certainly do much to increase still further its popularity.

The page has been made slightly larger, and many excellent illustrations have been added, together with much new matter. The book throughout has obviously been carefully revised. Here and there treatment is amplified, or a line is added to diagnosis: thus the use of inflation with air or hydrogen in diagnosing intra-peritoneal rupture of the bladder is mentioned, while many of the operations are more fully described.

Two pages are devoted to "methods of exposing the fifth nerve or its branches for the purpose of neurotomy, neurectomy, or stretching," in place of the bare statement that the removal of Meckel's ganglion has done good in some particular cases of neuralgia.

Those familiar with the previous edition will notice the illustrations of the commoner pathogenic organisms, the methods of wiring ununited fractures, the description of the Edinburgh "box-splint" and craniectomy.

Perhaps, however, the greatest change is noticed in the part dealing with methods of uniting wounded intestine and intestinal anastomosis, which has been entirely re-written, and now occupies eleven pages instead of a page and a half. Many admirable diagrams have been introduced, and the descriptions of the operations, though brief,

are surprisingly clear. Amongst the recently introduced methods there is a full description of Murphy's button and its application.

All parts of the subject are not, however, treated at equal length; and while some pages would read well in a much more lengthy book, others err on the side of brevity. Amongst its faults, too, we notice the same old diagram illustrating the shortening which occurs in the flexed position in sciatic dislocations, where the artist, in his desire to emphasise the shortening, has made one femur *really* shorter than the other.

The increase in the matter, especially when taken together with the increase in the size of the page, seems to make the reading of it really quicker, and certainly makes it lighter, so much does the extra detail help in maintaining the interest of the reader.

Births.

TWEEDY.—April 13th, at Abbey House, Kenilworth, the wife of Reginald Carlyon Tweedy, M.R.C.S., L.R.C.P., of a son.

WHITE.—March 20th, at Hatfield Broad Oak, Essex, the wife (*née* Brownrigg) of J. Arthur T. White, M.R.C.S., L.R.C.P., of a son (prematurely).

OPIE.—March 31st, at Winchester House, Worthing, the wife of E. A. Opie, M.B., of a son.

JONES.—April 28th, at Claybury, the wife of Robert Jones, M.D., of a daughter.

DAVENPORT.—February 5th, at Chung King, Western China, the wife of C. J. Davenport, F.R.C.S., of a daughter.

ROLLESTON.—April 7th, at Upper Wimpole Street, W., the wife of H. D. Rolleston, M.D., F.R.C.P., of a son.

CRESSWELL.—May 5th, at Cotterstock, Winchmore Hill, N., Emily Christiana, the wife of Francis Cresswell, L.R.C.P.Lond., M.R.C.S.Eng., of a son (Frank).

HURRY.—May 5th, at Abbotsbrook, Reading, the wife of Dr. Jamieson B. Hurry, M.A. (Cantab.), of a daughter.

Marriages.

OLIVE.—PRICE.—April 16th, at Christ Church, Leeson Park, Dublin, by Rev. Canon Neligan, D.D., Eustace John Parke Olive, M.A., M.D. (Cantab.), F.R.C.S. (Eng.), of Leamington, to Annie Gordon, eldest daughter of Rev. Wm. Guard Price, Knock, Belfast.

MUNDAY.—BURNARD.—April 18th, at Emmanuel Church, Plymouth, by the Rev. S. Baring Gould, assisted by the Rev. J. H. Prince, Richard Cleveland Munday, Surgeon, Royal Navy, second son of Paymaster-in-Chief Richard Munday, Royal Navy, of Calverley, Plymouth, to Olive Louise, elder daughter of Robert Burnard, of Hillsborough, Plymouth. No cards.

ECCELES.—SALT.—On the 30th April, at Curbar Church, Derbyshire, by the Rev. E. Warbreck, B.A., Vicar of Stapenhill, uncle of the bride, assisted by the Rev. J. Stockdale, M.A., Vicar of Baslow and Rural Dean, Herbert Annesley Eccles, M.D. (Lond.), son of W. S. Eccles, Esq., of Norwood, to Mary Sophia, eldest daughter of the Rev. T. F. Salt, Vicar of the parish.

HIND.—BARKER.—April 18th, at Stockton-on-Tees, Henry Hind, F.R.C.S., to Annie Charlotte Barker, daughter of the late William Barker, F.R.C.P.I.

OGLE.—PERFECT.—April 17th, at Lewes, Sussex, John Gilbert Ogle, M.D. (Oxon.), to Edith Madeleine, daughter of the Rev. A. P. Perfect, B.D., Rector of St. John's, Lewes.

Deaths.

MURRELL.—March 26th, at his residence, Yarmouth House, Acton, W., Clement Frederick Fenn Murrell, M.B., aged 47.

BIRD.—April 16th, at Osnaurgh Street, London, W., John Bird, M.R.C.S., aged 84.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*, *London Hospital Gazette*, *St. Mary's Hospital Gazette*. *Surgery: its Theory and Practice*, by W. J. WALSHAM, F.R.C.S., 5th edition, price 12s. 6d. (J. & A. Churchill). *The Year-book of Treatment for 1895* (Cassell & Co.). *A Course of Elementary Practical Bacteriology, including Bacteriological Analysis and Chemistry*, by A. A. KANTHACK and J. H. DRYSDALE, M.B., M.R.C.P. (Macmillan & Co.), 1895, price 6s. *Aids to Surgical Anatomy*, by EUGENE S. YONGE (Baillière, Tindall, & Cox), 1895, price 2s. 6d.